# *Index of Subjects*

## Volume 102, 1981


**A23187**
affecting parathyroid tissue, 336
**Acid phosphatase**
in lymphocytes, 72
**Actin**
in fibrotic lung tissue, 427
**Adreno-leukodystrophy**
testis in, 90
**Alveolar permeability**
oxygen exposure affecting, 1
**p-Aminophenol**
melanocytotoxicity of, 40
**Animal models of human disease**
gastric ulcer disease, 133
open angle glaucoma, 292
struvite urolithiasis, 457
**Aorta**
atherosclerosis in pigs with von Willebrand's disease, 137
metabolic changes in injured wall affected by endothelium, 28
nicotine affecting endothelium of, 229
**Asbestos**
analysis of asbestos bodies, 447
transmigration of inhaled fibers, 314
**Atherogenesis**
and cloncal characteristics of cutaneous scars, 49
**Atherosclerosis**
and von Willebrand's disease, 137
**Autoradiography**
and labeling index of tumor cells affected by blood vessel proximity, 84

*Babesia*
entry into red cells, 109
**Bladder**
hyperplasia in rat, 373
**Blood pressure** *See* Hypertension
**Bone**
remodeling affected by thyroxine, 438

**Calcium**
and cardiac action of phenol, 367
ionophores affecting parathyroid tissue, 336
in myotonic muscle from goats, 324
role in ischemic myocardium, 256, 262, 271
serum levels affected by thyroxine, 438
**Calculi**
struvite, in dogs, 457
**Carcinoma**
of Type II pneumocytes, 195
**Catalase**
and immune-complex-induced dermal inflammation, 55
in megakaryocytes in gray platelet syndrome, 10
**Cell cultures**
myocardial, iron uptake in, 151
**Central nervous system**
in adreno-leukodystrophy, 90
murine infection by temperature-sensitive virus mutants, 412
in *Trypanosoma brucei* infection in dogs, 168
**Chemotaxis**
of fibrosarcoma cells, 160
**Clonal selection**
and healing of cutaneous wounds, 49
**Colloidal iron stain**
for glomerular anionic sites, 99
**Complement**
and granulocyte aggregation, 146
**Coronary arteries**
atherosclerosis in pigs with von Willebrand's disease, 137
**Cytochemistry**
of acid phosphatase in lymphocytes, 72
of megakaryocytes in gray platelet syndrome, 10
**Cytochrome c**
alveolar permeability to, 1

**Demyelination**
from temperature-sensitive virus mutants, 412
**Diabetes**
and myocardial disease with hypertension in rat, 219
**Dimethylnitrosamine**
affecting pancreas, 403

**Electron microscopy**
of acid phosphatase in lymphocytes, 72
of alveolar permeability after oxygen exposure, 1
of aortic endothelium after nicotine, 229
of bladder hyperplasia, 373
of carcinoma of Type II pneumocytes, 195
of cells in gray platelet syndrome, 10
of CNS infection from temperature-sensitive virus mutants, 412
of endothelium in arterial spasm, 346
of glomerular anionic distribution, 99
of interferon-induced lesions, 396
of iron uptake in myocardial cells, 151
of myotonia congenita in goats, 324
of nuclear bodies in crescentic glomerulonephritis, 359
of ozone-induced parathyroiditis, 297
of parathyroid tissue affected by Tris and calcium ionophores, 336
of testis in adreno-leukodystrophy, 90
**Endothelium, vascular**
changes in arterial spasm, 346
damage from complement-stimulated PMNs, 146
and metabolic changes in injured aortic wall, 28
nicotine affecting, 229
in ozone-induced parathyroiditis, 297
**Enzymes**
acid phosphatase in lymphocytes, 72
activity in aortic wall injuries, 28
activity in blood cell fractions, 209
catalase
and immune-complex-induced dermal inflammation, 55
in megakaryocytes in gray platelet syndrome, 10
**Erythrocytes**
*Babesia* entry into, 109
**Erythroid cells**
intracellular hemoglobin detection in, 308

**Erythroleukemia**
intracellular hemoglobin detection in, 308
**Erythropoiesis**
and diagnostic value of intracellular hemoglobin, 308
**Esterase**
activity in blood cell fractions, 209
**Eyes**
ocular melanocytes affected by GHB, 40
open angle glaucoma in dogs, 292
in *Trypanosoma brucei* infection in dogs, 168

**Fibrosarcoma cells**
chemotactic responsiveness of, 160

**Glaucoma**
open angle, animal model of, 292
**Glomerulonephritis**
crescentic, nuclear bodies in, 359
**γ-L-Glutaminyl-4-hydroxybenzene**
melanocytotoxicity of, 40
**Golgi complex**
parathyroid, agents affecting, 336
**Granules**
in megakaryocytes, in gray platelet syndrome, 10
**Granulocytes**
complement-induced aggregation of, 146

**Heart**
hypertensive-diabetic cardiomyopathy in rat, 219
hypertrophic cardiomyopathy in cats, 388
iron uptake in myocardial cells, 151
myocardial ischemia, 239
biologic phases of, 241
calcium role in, 256, 262, 271
ionic events in, 256
irreversible cell injury in, 271
metabolic effects of, 271, 282
phenol affecting cardiac muscle, 367
in *Trypanosoma brucei* infection in dogs, 168
**Hematopoiesis**
extramedullary, and intracellular hemaglobin dilution, 308
**Hemodialysis**
and phenol role in uremic cardiomyopathy, 367
pulmonary dysfunction in, 146
**Hemoglobin**
as cell marker in paraffin sections, 308
**Heparin**
effects in stroke-prone spontaneously hypertensive rats, 62
**Hydroxyproline**
urinary, thyroxine affecting, 438
**Hyperoxia**
and alveolar permeability, 1
**Hypertension**
and diabetic cardiomyopathy in rat, 219
and effects of heparin in rats, 62

**Immune complexes**
and inflammation in lung or dermal vasculature, 55
**Immune response**
in ozone-induced parathyroiditis, 297
and role of T cell sets in tumor rejection, 20
in schistosomiasis, 121
in theileriosis, 114
in *Trypanosoma brucei* infection in dogs, 182
**Immune tissue injury**
in complement-mediated PMN aggregation, 146
**Immunodiagnosis**
of carcinoma of Type II pneumocytes, 195
**Immunofluorescence studies**
of CNS infection from temperature-sensitive virus mutants, 412
of nuclear bodies in crescentic glomerulonephritis, 359
**Immunoperoxidase**
in detection of intracellular hemoglobin, 308
**Interferon**
mouse preparations, 396
**Intravital microscopy**
of complement-induced granulocyte aggregation, 146
**Iron**
colloidal iron stain for glomerular anionic sites, 99
uptake in myocardial cells, 151
**Ischemia**
myocardial, symposium on, 239
role of calcium in, 262
ionic events and anoxia, 256
lethal, *in vivo*, 241
metabolic products, 282
pathogenesis, 271

**Kidney**
canine struvite urolithiasis, 457
glomerular anionic distribution, 99
lesions from interferon, 396
nuclear bodies in crescentic glomerulonephritis, 359
phenol role in uremic cardiomyopathy, 367
vascular lesions affected by heparin in hypertensive rats, 62

**Leishmania**
entry into macrophages, 127
**Leukemia**
intracellular hemoglobin detection in, 308
**Liver**
experimental ischemia of, 271
lesions from interferon, 396
**Lung**
analysis of asbestos bodies in, 447
dysfunction during hemodialysis, 146
fibrosis with actin-containing cells, 427
immune-complex–induced injury affected by superoxide dismutase, 55
oxygen exposure affecting alveolar permeability, 1
subtype of bronchioloalveolar carcinoma, 195
transmigration of inhaled fibers, 314
**Lymph nodes**
in *Trypanosoma brucei* infection in dogs, 182
**Lymphocytes**
acid phosphatase in, 72
role of T cell sets in tumor rejection, 20

**Macrophages**
interaction with intracellular protozoa, 127
peritoneal, monocytic origin of, 209
**Mastocytoma**
tobacco tar-induced, 381
**Megakaryocytes**
in gray platelet syndrome, 10
**Melanocytes**
ocular, affected by GHB, 40
**Mesothelioma**
asbestos bodies in, 447
**Microvilli**
pleomorphic, in bladder epithelium, 373
**Mitochondria**
changes in myocardial ischemia, 271, 282
in myotonic muscle from goats, 324
**Monocytes**
as source of peritoneal macrophages, 209
**Myelinolysis**
from temperature-sensitive virus mutants, 412
**Myeloproliferative disorders**
intracellular hemoglobin detection in, 308

**Myocardial disease.** *See* Heart
**Myotonia congenita**
in goats, 324

**Neoplasia**
asbestos bodies in mesothelioma, 447
carcinogenicity of inhaled asbestos fibers, 314
carcinoma of Type II pneumocytes, 195
chemotactic responsiveness of fibrosarcoma cells, 160
early lesions in experimental bladder cancer, 373
*in vitro* model of pancreatic carcinoma, 403
proximity of tumor cells to blood vessels affecting autoradiography, 84
role of T cell sets in tumor rejection, 20
tobacco tar-induced mastocytomas, 381
**Nervous system.** *See* Central nervous system
**Nicotine**
affecting aortic endothelium, 229
**Norepinephrine**
and cardiac action of phenol, 367
**Nuclear bodies**
in crescentic glomerulonephritis, 359

**Oxygen**
and alveolar permeability, 1
metabolic products affecting immune-complex–induced injury, 55
**Ozone inhalation**
parathyroiditis from, 297

**Pancreas**
dimethylnitrosamine affecting, 403
**Parasitic diseases,** 108
and *Babesia* entry into red cells, 109
and macrophage interaction with intracellular protozoa, 127
schistosomiasis, 121
theileriosis, 114
*Trypanosoma brucei* infection in dogs, 168, 182
**Parathyroid tissue**
Tris and calcium ionophores affecting, 336
**Parathyroiditis**
ozone-induced, 297
**Peptic ulcer**
animal model of, 133
**Peritoneal macrophages**
monocytic origin of, 209
**Phenol**
effects on cardiac muscle, 367
**Phosphate**
high-energy, depletion in myocardial ischemia, 241
**Phosphorus**
serum levels affected by thyroxine, 438
**Plasma cells**
response in *Trypanosoma brucei* infection in dogs, 182
*Plasmodia*
entry into red cells, 109
**Platelets**
aggregation in ozone-induced parathyroiditis, 297
gray platelet syndrome, 10
**Pneumocytes**
Type II, carcinoma of, 195
**Polycythemia vera**
intracellular hemoglobin detection in, 308
**Potassium**
losses in myocardial ischemia, 256
**Proteinuria**
and glomerular anionic distribution, 99
**Protozoal infections.** *See* Parasitic diseases

**Sarcolemma**
ionic exchanges in myocardial ischemia, 256
in myotonic muscle from goats, 324
**Schistosomula**
immunologic properties of, 121
**Skin**
clonal selection in wound healing, 49
immune-complex–induced injury affected by superoxide dismutase, 55
tobacco tar-induced mastocytomas, 381
**Smoking**
nicotine affecting aortic endothelium, 229
tobacco tar-induced mastocytomas, 381
**Spleen**
in *Trypanosoma brucei* infection in dogs, 182
**Stomach**
animal model of gastric ulcer, 133
**Struvite calculi**
canine, 457
**Superoxide dismutase**
and immune-complex–induced dermal inflammation, 55

**Testis**
in adreno-leukodystrophy, 90
**Theilerosis**
immune response in, 114
**Thyroxine**
and cortical bone remodeling, 438
**Tobacco use.** *See* Smoking
*Toxoplasma*
entry into macrophages, 127
**Tris**
affecting parathyroid tissue, 336
*Trypanosoma*
*brucei* infection in dogs
lymphoid organ changes in, 182
tissue and organ damage in, 168
*cruzi* entry into macrophages, 127
**Tumors.** *See* Neoplasia

**Ulceration**
gastric, animal model of, 133
**Uremia**
and phenol role in cardiomyopathy, 367
**Urolithiasis**
struvite, in dogs, 457

**Vasculature**
atherosclerosis and von Willebrand's disease, 137
changes in hypertensive-diabetic cardiomyopathy in rat, 219
clonal selection in repair of arterial injury, 49
dermal, immune-complex–induced damage to, 55
endothelial changes in arterial spasm, 346
endothelial damage from complement-stimulated PMNs, 146
endothelium affecting metabolic changes in injured aortic wall, 28
lesions affected by heparin in hypertensive rats, 62
nicotine affecting aortic endothelium, 229
in ozone-induced parathyroiditis, 297
proximity of tumor cells to blood vessels affecting autoradiography, 84
**Virus infections**
of murine CNS, from temperature-sensitive mutants, 412
and nuclear bodies in crescentic glomerulonephritis, 359
**Von Willebrand's disease**
and atherosclerosis, 137

**X537A**
affecting parathyroid tissue, 336

# *Index of Authors*

## Volume 102, 1981


**Adler KB, Craighead JE, Vallyathan NV, Evans JN**: Actin-containing cells in human pulmonary fibrosis (March), 427

**Aguet M**: *See* Gresser I, Aguet M, Morel-Maroger L, Woodrow D, Puvion-Dutilleul F, Guillon J-C, Maury C, 396

**Ainsworth SK**: *See* Hirsch HZ, Ainsworth SK, Spicer SS, Kurtz EH, Brissie RM, 99

**Allen LM**: *See* Pavelic ZP, Allen LM, Mihich E, 84

**Allison AC, Eugui EM**: Theileriosis: Cell-mediated and humoral immunity (January), 119

**André C**: *See* André F, André C, 133

**André F, André C**: ANIMAL MODEL OF HUMAN DISEASE: Gastric ulcer disease (January), 133

**Arai M**: *See* Fukushima S, Cohen SM, Arai M, Jacobs JB, Friedell G, 373

**Atkinson JB, Swift LL, Lequire VS**: Myotonia congenita: A histochemical and ultrastructural study in the goat: Comparison with abnormalities found in human myotonia dystrophica (March), 324

**Atwal OS, Pemsingh RS**: Morphology of microvascular changes and endothelial regeneration in experimental ozone-induced parathyroiditis: III. Some pathologic considerations (March), 297

**Bainton DF**: *See* Poore TE, Barrett SG, Kadin ME, Bainton DF, 72

**Barras CE**: *See* Lee KP, Barras CE, Griffith FD, Waritz RS, 314

**Barrett SG**: *See* Poore TE, Barrett SG, Kadin ME, Bainton DF, 72

**Benacerraf B**: *See* Bhan AK, Perry LL, Cantor H, McCluskey RT, Benacerraf B, Greene MI, 20

**Bhan AK, Perry LL, Cantor H, McCluskey RT, Benacerraf B, Greene MI**: The role of T cell sets in the rejection of a methylcholanthrene-induced sarcoma (S1509a) in syngeneic mice (January), 20

**Bhan R**: *See* Factor SM, Bhan R, Minase T, Wolinsky H, Sonnenblick EH, 219

**Black HE**: *See* High WB, Capen CC, Black HE, 438

**Boitnott JK**: *See* Wilson SK, Solez K, Boitnott JK, Heptinstall RH, 62

**Booyse FM, Osikowicz G, Quarfoot AJ**: Effects of chronic oral consumption of nicotine on the rabbit aortic endothelium (February), 229

**Breton-Gorius J, Vainchenker W, Nurden A, Levy-Toledano S, Caen J**: Defective x-granule production in megakaryocytes from gray platelet syndrome: Ultrastructural studies of bone marrow cells and megakaryocytes growing in culture from blood precursors (January), 10

**Brinkhous KM**: *See* Griggs TR, Reddick RL, Sultzer D, Brinkhous KM, 137

**Brissie RM**: *See* Hirsch HZ, Ainsworth SK, Spicer SS, Kurtz EH, Brissie RM, 99

**Bromberg NM**: *See* Gelatt KN, Gum GG, Gwin RM, Bromberg NM, Merideth RE, Samuelson DA, 292

**Burger PC**: *See* Koo EH, Burger PC, Vogel FS, 40

**Butt KMH**: *See* Parsa I, Marsh WH, Sutton AL, Butt KMH, 403

**Byers BR**: *See* Box PG, Harvey NE, Sciortino C, Byers BR, 151

**Caen J**: *See* Breton-Gorius J, Vainchenker W, Nurden A, Levy-Toledano S, Caen J, 10

**Cantor H**: *See* Bhan AK, Perry LL, Cantor H, McCluskey RT, Benacerraf B, Greene MI, 20

**Capen CC**: *See* High WB, Capen CC, Black HE, 438

**Chien KR**: *See* Farber JL, Chien KR, Mittnacht S Jr, 271

**Churg AM, Warnock ML**: REVIEW ARTICLE: Asbestos and other ferruginous bodies: Their formation and clinical significance (March), 447

**Cohen SM**: *See* Fukushima S, Cohen SM, Arai M, Jacobs JB, Friedell G, 373

**Cohn DV**: *See* McGregor DH, Morrissey JJ, Cohn DV, 336

**Cox PG, Harvey NE, Sciortino C, Byers BR**: Electronmicroscopic and radioiron studies of iron uptake in newborn rat myocardial cells *in vitro* (February), 151

**Craddock PR**: *See* Hammerschmidt DE, Harris PD, Wayland JH, Craddock PR, Jacob HS, 146

**Craighead JE**: *See* Adler KB, Craighead JE, Vallyathan NV, Evans JN, 427

**Dal Canto MC, Rabinowitz SC**: Murine central nervous system infection by a viral temperature-sensitive mutant: A subacute disease leading to demyelination (March), 412

**Delikatny J**: *See* Orr FW, Varani J, Delikatny J, Jain N, Ward PA, 160

**Dillman JM**: *See* Pearson TA, Dillman JM, Solez K, Heptinstall RH, 49

**Dommes M**: *See* Parwaresch MR, Radzun HJ, Dommes M, 209

**Downing SE**: *See* Lee JC, Downing SE, 367

**Eugui EM**: *See* Allison AC, Eugui EM, 119

**Evans JN**: *See* Adler KB, Craighead JE, Vallyathan NV, Evans JN, 427

**Factor SM, Bhan R, Minase T, Wolinsky H, Sonnenblick EH**: Hypertensive-diabetic cardiomyopathy in the rat: An experimental model of human disease (February), 219

**Falcone DJ**: *See* Hajjar DP, Falcone DJ, Fowler S, Minick CR, 28

**Farber JL, Chien KR, Mittnacht S Jr**: The pathogenesis of irreversible cell injury in ischemia (February), 271

**Farhi LE**: *See* Nickerson PA, Matalon S, Farhi LE, 1

**Feuvray D**: *See* Neely JR, Feuvray D, 282

**Fowler S**: *See* Hajjar DP, Falcone DJ, Fowler S, Minick CR, 28

**Friedell G**: *See* Fukushima S, Cohen SM, Arai M, Jacobs JB, Friedell G, 373

**Fukushima S, Cohen SM, Arai M, Jacobs JB, Fiedell G**:

Scanning electron microscopic examination of reversible hyperplasia of rat urinary bladder (March), 373

**Gelatt KN, Gum GG, Gwin RM, Bromberg NM, Merideth RE, Samuelson DA**: ANIMAL MODEL OF HUMAN DISEASE: Primary open angle glaucoma (February), 292
**Graham AR, Payne CM, Nagle RB**: A quantitative light- and electron-microscopic study of type IV nuclear bodies in crescentic glomerulonephritis (March), 359
**Greene MI**: *See* Bhan AK, Perry LL, Cantor H, McCluskey RT, Benacerraf B, Greene MI, 20
**Gresser I, Aguet M, Morel-Maroger L, Woodrow D, Puvion-Dutilleul F, Guillon J-C, Maury C**: Electrophoretically pure mouse interferon inhibits growth, induces liver and kidney lesions, and kills suckling mice (March), 396
**Griffith DP**: *See* Klausner JS, Osborne CA, Griffith DP, 457
**Griffith FD**: *See* Lee KP, Barras CE, Griffith FD, Waritz RS, 314
**Griggs TR, Reddick RL, Sultzer D, Brinkhous KM**: Susceptibilty to athersclerosis in aortas and coronary arteries of swine with von Willebrand's disease (February), 137
**Guillon J-C**: *See* Gresser I, Aguet M, Morel-Maroger L, Woodrow D, Puvion-Dutilleul F, Guillon J-C, Maury C, 396
**Gum GG**: *See* Gelatt KN, Gum GG, Gwin RM, Bromberg NM, Merideth RE, Samuelson DA, 292
**Gwin RM**: *See* Gelatt KN, Gum GG, Gwin RM, Bromberg NM, Merideth RE, Samuelson DA, 292

**Hajjar DP, Falcone DJ, Fowler S, Minick CR**: Endothelium modifies the altered metabolism of the injured aortic wall (January), 28
**Hammerschmidt DE, Harris PD, Wayland JH, Craddock PR, Jacob HS**: Complement-induced granulocyte aggregation *in vivo* (February), 146
**Harkin MM**: *See* McCormick JR, Harkin MM, Johnson KJ, Ward PA, 55
**Harris PD**: *See* Hammerschmidt DE, Harris PD, Wayland JH, Craddock PR, Jacob HS, 146
**Harvey NE**: *See* Cox PG, Harvey NE, Sciortino C, Byers BR, 151
**Heptinstall RH**: *See* Pearson TA, Dillman JM, Solez K, Heptinstall RH, 49
**Heptinstall RH**: *See* Wilson SK, Solez K, Boitnott JK, Heptinstall RH, 62
**Hirsch HZ, Ainsworth SK, Spicer SS, Kurtz EH, Brissie RM**: Ultrastructural assessment by colloidal iron of the distribution and localization of anionic sites in human glomerulonephritides (January), 99
**High WB, Capen CC, Black HE**: Effects of thyroxine of cortical bone remodeling in adult dogs: A histomorphometric study (March), 438

**Jack RM**: *See* Ward PA, Jack RM, 109
**Jacob HS**: *See* Hammerschmidt DE, Harris PD, Wayland JH, Craddock PR, Jacob HS, 146
**Jacobs JB**: *See* Fukushima S, Cohen SM, Arai M, Jacobs JB, Friedell G, 373
**Jain N**: *See* Orr FW, Varani J, Delikatny J, Jain N, Ward PA, 160
**Jennings RB**: SYMPOSIUM: Myocardial ischemia (February), 239
**Jennings RB, Reimer KA**: Lethal myocardial ischemic injury (February), 241
**Johnson KJ**: *See* McCormick JR, Harkin MM, Johnson KJ, Ward PA, 55
**Jones TC**: Interactions between murine macrophages and obligate intracellular protozoa (January), 127
**Joris I, Majno G**: Endothelial changes induced by arterial spasm (March), 346

**Kadin ME**: *See* Poore TE, Barrett SG, Kadin ME, Bainton DF, 72
**Katyal SL**: *See* Singh G, Katyal SL, Torikata C, 195
**Klausner JS, Osborne CA, Griffith DP**: ANIMAL MODEL OF HUMAN DISEASE: Canine struvite urolithiasis, 457
**Koo EH, Burger PC, Vogel FS**: The melanocytotoxicity of y-L-glutaminyl-4-hydroxybenzene: A study of the pigmented cells in the mouse eye (Janaury), 40
**Kurtz EH**: *See* Hirsch HZ, Ainsworth SK, Spicer SS, Kurtz EH, Brissie RM, 99

**Lee JC, Downing SE**: Negatiave inotropic effects of phenol on isolated cardiac muscle (March), 367
**Lee KP, Barras CE, Griffith FD, Waritz RS**: Pulmonary response and transmigration of inorganic fibers by inhalation exposure (March), 314
**Lequire VS**: *See* Atkinson JB, Swift LL, Lequire VS, 324
**Levy-Toledano S**: *See* Breton-Gorius J, Vainchenker W, Nurden A, Levy-Toledano S, Caen J, 10
**Liu S-K, Maron BJ, Tilley LP**: Feline hypertrophic cardiomyopathy: Gross anatomic and quantitative histologic features (March), 388

**Majno G**: *See* Joris I, Majno G, 346
**Maron BJ**: *See* Liu S-K, Maron BJ, Tilley LP, 388
**Marsh WH**: *See* Parsa I, Marsh WH, Sutton AL, Butt KMH, 403
**Matalon S**: *See* Nickerson PA, Matalon S, Farhi LE, 1
**Maury C**: *See* Gresser I, Aguet M, Morel-Maroger L, Woodrow D, Puvion-Dutilleul F, Guillon J-C, Maury C, 396
**McCluskey RT**: *See* Bhan AK, Perry LL, Cantor H, McCluskey RT, Benacerraf B, Greene MI, 20
**McCormick JR, Harkin MM, Johnson KJ, Ward PA**: Suppression by superoxide dismutase of immune-complex-induced pulmonary alveolits and dermal inflammation (January), 55
**McGregor DH, Morrissey JJ, Cohn DV**: The effect of tris-(hydroxymethyl)aminomethane and calcium ionophores on the biosynthesis of proparathormone and the formation and degradation of parathormone in bovine parathyroid tissue (March), 336
**Merideth RE**: *See* Gelatt KN, Gum GG, Gwin RM, Bromberg NM, Merideth RE, Samuelson DA, 292
**Mihich E**: *See* Pavelic ZP, Allen LM, Mihich E, 84
**Minase T**: *See* Factor SM, Bhan R, Minase T, Wolinsky H, Sonnenblick EH, 219
**Minick CR**: *See* Hajjar DP, Falcone DJ, Fowler S, Minick CR, 28
**Mittnacht S Jr**: *See* Farber JL, Chien KR, Mittnacht S Jr, 271
**Morel-Maroger L**: *See* Gresser I, Aguet M, Morel-Maroger L, Woodrow D, Puvion-Dutilleul F, Guillon J-C, Maury C, 396
**Mori H**: *See* Ohmori T, Mori H, Rivenson A, 381
**Morrison WI, Murray M, Sayer PD, Preston JM**: The pathogenesis of experimentally induced *Trypanosoma brucei* infection in the dog: I. Tissue and organ damage (February), 168
**Morrison WI, Murray M, Sayer PD, Preston JM**: The pathogenesis of experimentally induced *Trypanosoma brucei* infection in the dog: II. Changes in the lymphoid organs (February), 182
**Morrissey JJ**: *See* McGregor DH, Morrissey JJ, Cohn DV, 336

**Moser G**: *See* Sher A, Moser G, 121
**Murray M**: *See* Morrison WI, Murray M, Sayer PD, Preston JM, 168
**Murray M**: *See* Morrison WI, Murray M, Sayer PD, Preston JM, 182

**Nagle RB**: *See* Graham AR, Payne CM, Nagle RB, 359
**Nayler WG**: The role of calcium in the ischemic myocardium (February), 262
**Neely JR, Feuvray D**: Metabolic products and myocardial ischemia (February), 282
**Nickerson PA, Matulon J, Farhi LE**: An ultrastructural study of alveolar permeabilty to cytochrome C in the rabbit lung: Effect of exposure to 100% oxygen at one atmosphere (January), 1
**Nurden A**: *See* Breton-Gorius J, Vainchenker W, Nurden A, Levy-Toledano S, Caen J, 10

**Ohmori T, Mori H, Rivenson A**: A study of tobacco carcinogenesis XX: Mastocytoma induction in mice by cigarette smoke particulates ("cigarette tar") (March), 381
**Orr FW, Varani J, Delikatny J, Jain N, Ward PA**: Comparison of the chemotactic responsiveness of two fibrosarcoma subpopulations of differing malignancy (February), 160
**Osikowicz G**: *See* Booyse FM, Osikowicz G, Quarfoot AJ, 229
**Osborne CA**: *See* Klausner JS, Osborne CA, Griffith DP, 457

**Parsa I, Marsh WH, Sutton AL, Butt KMH**: Effects of dimethylnitrosamine on organ-cultured adult human pancreas (March), 403
**Parwaresch MR, Radzun HJ, Dommes M**: The homogeneity and conocytic origin of human peritoneal macrophages evidenced by comparison of esterase polymorphism (February), 209
**Pavelic ZP, Allen LM, Mihich E**: The relationship of blood vessel proximity and time after radiolabeled thymidine administration to tumor cell population kinetics in a transplanted mouse mammary tumor (January), 84
**Payne CM**: *See* Graham AR, Payne CM, Nagle RB, 359
**Pearson TA, Dillman JM, Solez K, Heptinstall RH**: Clonal characteristics of cutaneous scars and implications for atherogenesis, 49
**Pemsingh RS**: *See* Atwal OS, Pemsingh RS, 297
**Perry LL**: *See* Bhan AK, Perry LL, Cantor H, McCluskey RT, Benacerraf B, Greene MI, 20
**Pinkus GS, Said JW**: Intracellular hemoglobin—A specific marker for erythroid cells in paraffin sections: An immunoperoxidase study of normal, megaloblastic, and dysplastic erythroleukemia and other myeloproliferative disorders (March), 308
**Poore TE, Barrett SG, Kadin ME, Bainton DF**: Ultrastructural localization of acid phosphatase in rosetted and B lymphocytes of normal human blood (January), 72
**Powers JM, Schaumberg HH**: The testis in adreno-leukodystrophy (January), 90
**Preston JM**: *See* Morrison WI, Murray M, Sayer PD, Preston JM, 168
**Preston JM**: *See* Morrison WI, Murray M, Sayer PD, Preston JM, 182
**Puvion-Dutilleul F**: *See* Gresser I, Aguet M, Morel-Maroger L, Woodrow D, Puvion-Dutilleul F, Guillon J-C, Maury C, 396

**Quarfoot AJ**: *See* Booyse FM, Osikowicz G, Quarfoot AJ, 229

**Rabinowitz SC**: *See* Dal Canto MC, Rabinowitz SC, 412
**Radzun HJ**: *See* Parwaresch MR, Radzun HJ, Dommes M, 209
**Reddick RL**: *See* Griggs TR, Reddick RL, Sultzer D, Brinkhous KM, 137
**Reimer KA**: *See* Jennings RB, Reimer KA, 241
**Rivenson A**: *See* Ohmori T, Mori H, Rivenson A, 381

**Said JW**: *See* Pinkus GS, Said JW, 308
**Samuelson DA**: *See* Gelatt KN, Gum GG, Gwin RM, Bromberg NM, Merideth RE, Samuelson DA, 292
**Sayer PD**: *See* Morrison WI, Murray M, Sayer PD, Preston JM, 168
**Sayer PD**: *See* Morrison WI, Murray M, Sayer PD, Preston JM, 182
**Schaumburg HH**: *See* Powers JM, Schaumburg HH, 90
**Sciortino C**: *See* Cox PG, Harvey NE, Sciortino C, Byers BR, 151
**Sher A, Moser G**: Schistosomiasis: Immunologic properties of developing schistosomula (January), 256
**Shine KI**: Ionic events in ischemia and anoxia (February), 256
**Singh G, Katyal SL, Torikata C**: Carcinoma of type II pneumocytes: Immunodiagnosis of a subtype of "bronchioloalveolar carcinomas" (February), 195
**Solez K**: *See* Pearson TA, Dillman JM, Solez K, Heptinstall RH, 49
**Solez K**: *See* Wilson SK, Solez K, Boitnott JK, Heptinstall RH, 62
**Sonnenblick H**: *See* Factor SM, Bhan R, Minase T, Wolinsky H, Sonnenblick H, 219
**Spicer SS**: *See* Hirsch HZ, Ainsworth SK, Spicer SS, Kurtz EH, Brissie RM, 99
**Sultzer D**: *See* Griggs TR, Reddick RL, Sultzer D, Brinkhous KM, 137
**Sutton AL** *See* Parsa I, Marsh WH, Sutton AL, Butt KMH, 403
**Swift LL**: *See* Atkinsoni JB, Swift LL, Lequire VS, 324

**Tilley LP**: *See* Liu S-K, Maron BJ, Tilley LP, 388
**Torikata C**: *See* Singh G, Katyal SL, Torikata C, 195

**Vainchenker W**: *See* Breton Gorius J, Vainchenker W, Nurden A, Levy-Toledano S, Caen J, 10
**Vallythan NV**: *See* Adler KB, Craighead JE, Vallyathan NV, Evans JN, 427
**Varani J**: *See* Orr FW, Delikatny J, Jain N, Ward PA, 160
**Vogel FS**: *See* Koo EH, Burger PC, Vogel FS, 40

**Ward PA**: PRESIDENT'S SYMPOSIUM: Frontiers of parasitic diseases (January), 108
**Ward PA**: *See* McCormick JR, Harkin MM, Johnson KJ, Ward PA, 55
**Ward PA**: *See* Orr FW, Varani J, Delikatny J, Jain N, Ward PA, 160
**Ward PA, Jack RM**: The entry process of *Babesia* merozoites into red cells (January), 109
**Waritz RS**: *See* Lee KP, Barras CE, Griffith FD, Waritz RS, 314
**Warnock ML**: *See* Churg AM, Warnock ML, 447
**Wayland JH**: *See* Hammerschmidt DE, Harris PD, Wayland JH, Craddock PR, Jacob HS, 146
**Wilson SK, Solez K, Boitnott JK, Heptinstall RH**: The effects of heparin treatment on hypertension and vascular lesions in stroke-prone spontaneously hypertensive rats (January), 62
**Wolinsky H**: *See* Factor SM, Bhan R, Minase T, Wolinsky H, Sonnenblick EH, 219
**Woodrow D**: *See* Gresser I, Aguet M, Morel-Maroger L, Woodrow D, Puvioni-Dutilleul F, Guillon J-C, Maury C, 396

# The American Journal of PATHOLOGY

OFFICIAL JOURNAL OF
THE AMERICAN ASSOCIATION OF PATHOLOGISTS

Volume 102, 1981

(January Through March)

BOARD OF EDITORS
Donald B. Hackel, Editor-in-Chief
F. Stephen Vogel, Associate Editor

Dolph O. Adams
Raymond D. Adams
Carl G. Becker
Frederick F. Becker
Baruj Benacerraf
Kurt Benirschke
Colin Bloor
Joel G. Brunson
L. Maximilian Buja
John E. Craighead
Frank J. Dixon, Jr.
Thomas S. Edgington
John T. Ellis
Emmanuel Farber
Frank W. Fitch
Patrick J. Fitzgerald
David G. Freiman
Godfrey S. Getz
Thomas J. Gill III
Gabriel Godman
John B. Hazard
T. Carl Jones
Michael Kashgarian
Werner H. Kirsten
Paul Kotin
Marvin S. Kuschner
Michael W. Lieberman
Guido Majno
Reginald G. Mason
A. Rees Midgley, Jr.
Donald G. McKay
Councilman Morgan
Richard L. Naeye
Peter Nowell
Carl W. Pierce
Henry C. Pitot
Alan S. Rabson
Norman B. Ratliff, Jr.
Edward P. Richardson, Jr.
Goetz W. Richter
Russell Ross
David T. Rowlands, Jr.
Herschel Sidransky
Edward A. Smuckler
Leon Sokoloff
Benjamin H. Spargo
Lewis Thomas
W. M. Thurlbeck
Peter A. Ward
Noel L. Warner
Dorothea Zucker-Franklin

*Editorial Assistant*: Sara Lyon

*EIGHTY YEARS OF PUBLICATION*

**THE AMERICAN ASSOCIATION of PATHOLOGISTS**

COPYRIGHT © 1981
BY THE AMERICAN ASSOCIATION OF PATHOLOGISTS

The American Journal of PATHOLOGY

CONTENTS FOR VOLUME 102, 1981

**January 1981**

1 An Ultrastructural Study of Alveolar Permeability to Cytochrome C in the Rabbit Lung: Effect of Exposure to 100% Oxygen at One Atmosphere
*Peter A. Nickerson, S. Matalon, and Leon E. Farhi*

10 Defective α-Granule Production in Megakaryocytes From Gray Platelet Syndrome: Ultrastructural Studies of Bone Marrow Cells and Megakaryocytes Growing in Culture From Blood Precursors
*J. Breton-Gorius, W. Vainchenker, A. Nurden, S. Levy-Toledano, and J. Caen*

20 The Role of T Cell Sets in the Rejection of a Methylcholanthrene-Induced Sarcoma (S1509a) in Syngeneic Mice
*Atul K. Bhan, Linda L. Perry, Harvey Cantor, Robert T. McCluskey, Baruj Benacerraf, and Mark I. Greene*

28 Endothelium Modifies the Altered Metabolism of the Injured Aortic Wall
*David P. Hajjar, Domenick J. Falcone, Stanley Fowler, and C. Richard Minick*

40 The Melanocytotoxicity of γ-L-Glutaminyl-4-Hydroxybenzene: A Study of the Pigmented Cells in the Mouse Eye
*Edward H. Koo, Peter C. Burger, and F. Stephen Vogel*

49 Clonal Characteristics of Cutaneous Scars and Implications for Atherogenesis
*Thomas A. Pearson, John M. Dillman, Kim Solez, and Robert H. Heptinstall*

55 Suppression by Superoxide Dismutase of Immune-Complex-Induced Pulmonary Alveolitis and Dermal Inflammation
*James R. McCormick, Mary M. Harkin, Kent J. Johnson, and Peter A. Ward*

62 The Effects of Heparin Treatment on Hypertension and Vascular Lesions in Stroke-Prone Spontaneously Hypertensive Rats
*Stephen K. Wilson, Kim Solez, John K. Boitnott, and Robert H. Heptinstall*

72 Ultrastructural Localization of Acid Phosphatase in Rosetted T and B Lymphocytes of Normal Human Blood
*T. Edwin Poore, Sondra G. Barrett, Marshall E. Kadin, and Dorothy F. Bainton*

84 The Relationship of Blood Vessel Proximity and Time After Radiolabeled Thymidine Administration to Tumor Cell Population Kinetics in a Transplanted Mouse Mammary Tumor
*Zlatko P. Pavelic, Larry M. Allen, and Enrico Mihich*

90 The Testis in Adreno-leukodystrophy
*James M. Powers and Herbert H. Schaumburg*

99 Ultrastructural Assessment by Colloidal Iron of the Distribution and Localization of Anionic Sites in Human Glomerulonephritides
*Harold Z. Hirsch, Sterling K. Ainsworth, Samuel S. Spicer, Elaine H. Kurtz, and Robert M. Brissie*

108 PRESIDENT'S SYMPOSIUM: Frontiers of Parasitic Diseases
*Peter A. Ward*

109 The Entry Process of *Babesia* Merozoites into Red Cells
*Peter A. Ward and Richard M. Jack*

119 Theileriosis: Cell-Mediated and Humoral Immunity
*Anthony C. Allison and Elsie M. Eugui*

121 Schistosomiasis: Immunologic Properties of Developing Schistosomula
*Alan Sher and Gina Moser*

127 Interactions Between Murine Macrophages and Obligate Intracellular Protozoa
*Thomas C. Jones*

133 Animal Model of Human Disease: Gastric Ulcer Disease
*F. André and C. André*

**February 1981**

137 Susceptibility to Atherosclerosis in Aortas and Coronary Arteries of Swine With von Willebrand's Disease
*Thomas R. Griggs, Robert L. Reddick, David Sultzer, and K. M. Brinkhous*

146 Complement-Induced Granulocyte Aggregation *in Vivo*
*Dale E. Hammerschmidt, Patrick D. Harris, J. Harold Wayland, Philip R. Craddock, and Harry S. Jacob*

151 Electron-Microscopic and Radioiron Studies of Iron Uptake in Newborn Rat Myocardial Cells *in Vitro*
*Prentiss G. Cox, Nancy E. Harvey, Carmen Sciortino, and B. R. Byers*

160 Comparison of the Chemotactic Responsiveness of Two Fibrosarcoma Subpopulations of Differing Malignancy
*F. William Orr, James Varani, James Delikatny, Narendra Jain, and Peter A. Ward*

168 The Pathogenesis of Experimentally Induced *Trypanosoma brucei* Infection in the Dog: I. Tissue and Organ Damage
*W. I. Morrison, Max Murray, P. D. Sayer, and J. M. Preston*

182 The Pathogenesis of Experimentally Induced *Trypanosoma brucei* Infection in the Dog: II. Changes in the Lymphoid Organs
*W. I. Morrison, Max Murray, P. D. Sayer, and J. M. Preston*

195 Carcinoma of Type II Pneumocytes: Immunodiagnosis of a Subtype of "Bronchioloalveolar Carcinomas"
*Gurmukh Singh, Sikandar L. Katyal, and Chikao Torikata*

209 The Homogeneity and Monocytic Origin of Human Peritoneal Macrophages Evidenced by Comparison of Esterase Polymorphism
*M. R. Parwaresch, H. J. Radzun, and M. Dommes*

219 Hypertensive-Diabetic Cardiomyopathy in the Rat: An Experimental Model of Human Disease
*Stephen M. Factor, Raj Bhan, Takashi Minase, Harvey Wolinsky, and Edmund H. Sonnenblick*

229 Effects of Chronic Oral Consumption of Nicotine on the Rabbit Aortic Endothelium
*François M. Booyse, Gene Osikowicz, and Alan J. Quarfoot*

239 SYMPOSIUM: Myocardial Ischemia
*Robert B. Jennings*

241 Lethal Myocardial Ischemic Injury
*Robert B. Jennings and Keith A. Reimer*

256 Ionic Events in Ischemia and Anoxia
*Kenneth I. Shine*

262 The Role of Calcium in the Ischemic Myocardium
*Winifred G. Nayler*

271 The Pathogenesis of Irreversible Cell Injury in Ischemia
*John L. Farber, Kenneth R. Chien, and Stewart Mittnacht, Jr.*

282 Metabolic Products and Myocardial Ischemia
*James R. Neely and Danielle Feuvray*

292 Animal Model of Human Disease: Primary Open Angle Glaucoma
*Kirk N. Gelatt, Glenwood G. Gum, Robert M. Gwin, Nancy M. Bromberg, Reuben E. Merideth, and Don A. Samuelson*

**March 1981**

297 Morphology of Microvascular Changes and Endothelial Regeneration in Experimental Ozone-Induced Parathyroiditis: III. Some Pathologic Considerations
*O. S. Atwal and R. S. Pemsingh*

308 Intracellular Hemoglobin—A Specific Marker for Erythroid Cells in Paraffin Sections: An Immunoperoxidase Study of Normal, Megaloblastic, and Dysplastic Erythroleukemia and Other Myeloproliferative Disorders
*Geraldine S. Pinkus and Jonathan W. Said*

314 Pulmonary Response and Transmigration of Inorganic Fibers by Inhalation Exposure
*K. P. Lee, C. E. Barras, F. D. Griffith, and R. S. Waritz*

324 Myotonia Congenita: A Histochemical and Ultrastructural Study in the Goat: Comparison With Abnormalities Found in Human Myotonia Dystrophica
*James B. Atkinson, Larry L. Swift, and Virgil S. Lequire*

336 The Effects of Tris(hydroxymethyl)aminomethane and Calcium Ionophores on the Biosynthesis of Proparathormone and the Formation and Degradation of Parathormone in Bovine Parathyroid Tissue
*Douglas H. McGregor, Jeremiah J. Morrissey, and David V. Cohn*

346 Endothelial Changes Induced by Arterial Spasm
*Isabelle Joris and Guido Majno*

359 A Quantitative Light- and Electron-Microscopic Study of Type IV Nuclear Bodies in Crescentic Glomerulonephritis
*Anna R. Graham, Claire M. Payne, and Ray B. Nagle*

367 Negative Inotropic Effects of Phenol on Isolated Cardiac Muscle
*John C. Lee and S. Evans Downing*

373 Scanning Electron Microscopic Examination of Reversible Hyperplasia of the Rat Urinary Bladder
*Shoji Fukushima, Samuel M. Cohen, Masayuki Arai, Jerome B. Jacobs, and Gilbert Friedell*

381 A Study of Tobacco Carcinogenesis XX: Mastocytoma Induction in Mice by Cigarette Smoke Particulates ("Cigarette Tar")
*Takaaki Ohmori, Hideki Mori, and Abraham Rivenson*

388 Feline Hypertrophic Cardiomyopathy: Gross Anatomic and Quantitative Histologic Features
*Si-Kwang Liu, Barry J. Maron, and Lawrence P. Tilley*

396 Electrophoretically Pure Mouse Interferon Inhibits Growth, Induces Liver and Kidney Lesions, and Kills Suckling Mice
*Ion Gresser, Michel Aguet, Liliane Morel-Maroger, David Woodrow, Francine Puvion-Dutilleul, Jean-Claude Guillon, and Chantal Maury*

403 Effects of Dimethylnitrosamine on Organ-Cultured Adult Human Pancreas
*Ismail Parsa, Walton H. Marsh, Albert L. Sutton, and Khalid M. H. Butt*

412 Murine Central Nervous System Infection by a Viral Temperature-Sensitive Mutant: A Subacute Disease Leading to Demyelination
*Mauro C. Dal Canto and Stanley G. Rabinowitz*

427 Actin-Containing Cells in Human Pulmonary Fibrosis
*Kenneth B. Adler, John E. Craighead, N. V. Vallyathan, and John N. Evans*

438 Effects of Thyroxine on Cortical Bone Remodeling in Adult Dogs: A Histomorphometric Study
*Wanda B. High, Carles C. Capen, and Hugh E. Black*

447 REVIEW ARTICLE: Asbestos and Other Ferruginous Bodies: Their Formation and Clinical Significance
*Andrew M. Churg and Martha L. Warnock*

457 Animal Model of Human Disease: Canine Struvite Urolithiasis
*J. S. Klausner, C. A. Osborne, and D. P. Griffith*

# *Index of Subjects*

Volume 103, 1981


**Adenoviruses**
liver necrosis from, 31
**Adrenal cells**
spironolactone bodies in, 404
**Aldosteronomas**
spironolactone bodies in, 404
**Angiotensin**
and cerebrovascular permeability, 226
**Animal Models of Human Disease**
dysbaric osteonecrosis, 334
march gangrene, 159
renal osteodystrophy, 466
**Aorta**
atherosclerosis from balloon catheter injury, 105
**Arthritis**
and rheumatoid synovium implanted into nude mice, 411
**Atherogenesis**
foam cell migration from lesions in, 191
and monocytes as foam cell precursors, 181
**Atherosclerosis**
autopsy findings related to antemortem factors in, 345
from balloon catheter injury, 105
**Autopsy studies**
and antemortem factors in atherosclerosis, 345

**Basement membrane**
entactin content in rodents, 419
**Blood pressure.** *See* Hypertension
**Bone**
dysbaric osteonecrosis in mice, 334
renal osteodystrophy, 466
**Breast**
pale cell carcinoma of, 283

**Calcium paradox**
in heart, DMSO affecting, 390
**Carotid artery**
atherosclerosis from balloon catheter injury, 105
constriction in acute hypertension, 226
**Cartilage**
hormone dependence of chondrosarcoma, 56
**Cerebrovascular permeability**
angiotensin affecting, 226
**Cholesterol levels**
and atherosclerosis, 345
**Chondrosarcoma**
hormone dependence of, 56
**Clara cells**
in papillary lung adenomas, 174
**Complement depletion**
and lung injury from oleic acid, 376
**Cortisone**
and chondrosarcoma growth, 56
**Cytologic typing**
of respiratory tract tumors, 321

**Decompression sickness**
and dysbaric osteonecrosis in mice, 334
**Diabetes**
and experimental autonomic neuropathy, 210
**Dimethylsulfoxide**
and calcium paradox in heart muscle, 390
**DMBA**
and squamous metaplasias of tracheal epithelium, 263
**Dysbarism**
and osteonecrosis in mice, 334

**Electron microscopy**
of alveolar macrophage fusion, 234
of border zone of myocardial infarct, 292
of dark cells in tracheal epithelium, 263
of Fabry's disease histochemistry, 247
of gastrocnemius tendon in selenium deficiency, 201
of glomerular podocytes in ischemic acute renal failure, 163
of lymphocyte changes from tunicamycin, 1
of mammary pale cell carcinoma, 283
of platelet satellitism, 116
**Endothelial cells**
migration into experimental wound, 271
surface expression of factor VIII/von Willebrand factor, 304
**Entactin**
in rodent tissues, 419
**Enzyme activity**
in spironolactone bodies in adrenal cells, 404
**Eye**
proteoglycans in microvessels of, 353, 367

**Fabry's disease**
histochemistry of, 247
**Factor VIII**
on endothelial cell membranes, 304
**Feminized mice**
and peroxisomes in Leydig cells, 96
**Fibrin**
degradation products in tissues, 337
**Fibroblast growth factor**
glomerular reaction to, 129
**Foam cells**
migration from atherosclerotic lesions, 191
monocytes as precursors in fatty streak lesions, 181
**Formaldehyde**
and squamous metaplasias of tracheal epithelium, 263

**Gangrene**
march, animal model of, 159
**Gastrocnemius tendon**
in selenium deficiency, 201
**Glomerular disease.** *See* Kidney
**Glycol**
polyethylene, and ischemic membrane integrity in myocardial slices, 79
**Glycosphingolipids**
in Fabry's disease, 247

**Growth hormone**
and chondrosarcoma growth, 56
**Guillain-Barré syndrome**
and Marek's disease studies, 309

**Heart**
border zone of myocardial infarct, 292
calcium paradox in, DMSO affecting, 390
ischemic membrane damage in myocardial slices, 79
**Hepatitis B virus**
liver necrosis from, 31
**Histochemical localization**
of entactin in rodent tissues, 419
of fibrin degradation products in tissues, 337
of proteoglycans in microvasculature, 353, 367
of spironolactone bodies in adrenal cells, 404
**Hormone-dependent tumors**
chondrosarcoma, 56
pale cell carcinoma, 283
**Hypertension**
and atherosclerosis at autopsy, 345
and atherosclerosis from balloon catheter injury, 105
carotid artery constriction in, 226

**Immune complexes**
in glomerular disease, 21
**Immunodiagnosis**
of acute leukemias, 137
**Immunofluorescence studies**
of cell migration into experimental wound, 271
of glomerular response to fibroblast growth factor, 129
of legionellosis, 427
of Marek's disease, 309
**Immunohistochemistry**
of entactin in rodent tissues, 419
of fibrin degradation products, 337
of intracellular myoglobin, 384
**Indomethacin**
and lung injury from oleic acid, 376
**Inflammation**
and monocyte migration kinetics, 47
**Ischemia**
and membrane damage in myocardial slices, 79
and renal failure, glomerular podocytes in, 163

**Kidney**
entactin content in rodents, 419
in Fabry's disease, 247
fibrin degradation products in, 337
glomerular podocytes in ischemic acute renal failure, 163
glomerular reaction to fibroblast growth factor, 129
immune complexes in glomerular disease, 21
renal osteodystrophy, 466

**Laminin**
compared with entactin, 419
**Legionellosis, 427**
clinical features of, 427
direct immunofluorescence tests in, 427
epidemiologic features of, 427
microbiologic features of, 427
pathologic features of, 427
serodiagnosis of, 427
**Leukemia**
acute, immunodiagnosis, 137
**Leydig cells**
peroxisome content in feminized mice, 96
**Lipid levels**
and atherosclerosis from balloon catheter injury, 105
**Liver**
entactin content in rodents, 419
fibrin degradation products in, 337
necrosis from viral agents, 31
**Lung.** *See* Respiratory tract
**Lymphocytes**
nuclear changes during transformation, 10
tunicamycin-induced changes in, 1
**Lymphokines**
and alveolar macrophage fusion, 234
**Lymphomas**
and nuclear alterations during lymphocyte transformation, 10

**Macrophages**
alveolar, fusion of, 234
**Mannitol**
and ischemic membrane integrity in myocardial slices, 79
**March gangrene**
animal model of, 159
**Marek's disease**
neuropathy in, 309
**Microvasculature**
proteoglycans in, 353, 367
**Migration**
of cells into experimental wound, 271
of foam cells from atherosclerotic lesions, 191
of monocytes into inflammatory tissue, 47
**Monocytes**
as foam cell precursors in fatty streak lesions, 181
migration kinetics of, 47
**Myelin**
antibodies to, in Marek's disease, 309
**Myocardium.** *See* Heart
**Myoglobin**
intracellular, in sarcomas, 384

**Necrosis**
dysbaric osteonecrosis in mice, 334
hepatic, from viral agents, 31
**Neoplasia**
cytologic typing of respiratory tract tumors, 321
dark cells in squamous metaplasias of tracheal epithelium, 263
hormone dependence of chondroblastoma, 56
intracellular myoglobin in rhabdomyosarcomas, 384
pale cell carcinoma, mammary, 283
papillary Clara cell adenoma, 174
spironolactone bodies in aldosteronomas, 404
**Neuropathy**
diabetic autonomic, experimental, 210
in Marek's disease, 309
**Neutrophils**
novel class of stimulants, 70

**Oleic acid**
lung injury from, 376
**Osteodystrophy**
renal, 466
**Osteonecrosis**
dysbaric, animal model of, 334

**Pancreatitis**
acute, in rat, 39
**Peroxisomes**
in Leydig cells of feminized mice, 96
**Placenta**
entactin content in rodents, 419
**Platelets**
activating factor affecting PMNs, 70
satellitism of, 116
**Polyethylene glycol**
and ischemic membrane integrity in myocardial slices, 79

**Propranolol**
and ischemic membrane integrity in myocardial slices, 79
**Proteoglycans**
in microvasculature, 353, 367

**Radiation**
and cell migration into wound, 271
and renal osteodystrophy in dogs, 466
**Respiratory tract**
cytologic typing of tumors in, 321
dark epithelial cells in squamous metaplasias of, 263
entactin in rat lung, 419
fusion of alveolar macrophages in, 234
lung injury from oleic acid, 376
papillary Clara cell adenomas, 174
**Rhabdomyosarcomas**
intracellular myoglobin in, 384
**Rheumatoid synovium**
implanted into nude mice, 411

**Sarcomas**
soft-tissue, intracellular myoglobin in, 384
**Selenium deficiency**
gastrocnemius tendon in, 201
**Shwartzman reaction**
in liver, 31
**Smoking**
and atherosclerosis at autopsy, 345
**Spironolactone bodies**
in aldosteronomas, 404
**Spleen**
entactin content in rodents, 419
**Synovium**
rheumatoid, implanted into nude mice, 411

**Testis**
peroxisomes in Leydig cells of feminized mice, 96
**Thyroxine**
and chondrosarcoma growth, 56
**Tumors.** *See* Neoplasia
**Tunicamycin**
lymphocyte changes from, 1

**Vasculature**
angiotensin affecting cerebrovascular permeability, 226
atherosclerosis of. *See* Atherosclerosis
proteoglycans in microvessels, 353, 367
**Viruses**
hepatic necrosis from, 31
in Marek's disease, 309
**Vitamin A**
deficiency of, and squamous metaplasias of tracheal epithelium, 263
**Von Willebrand factor**
on endothelial cell membranes, 304

# *Index of Authors*

## Volume 103, 1981

**Abe O:** *See* Aiba M, Suzuki H, Kageyama K, Murai M, Tazaki H, Abe O, Saruta T, 404
**Aiba M, Suzuki H, Kageyama K, Murai M, Tazaki H, Abe O, Saruta T:** Spironolactone bodies in aldosteronomas and in the attached adrenals: Enzyme histochemical study of 19 cases of primary aldosteronism and a case of aldosteronism due to bilateral diffuse hyperplasia of the zona glomerulosa (June), 404
**Alonso DR:** *See* Gottlieb GJ, Kubo SH, Alonso DR, 292
**Aoki N:** *See* Mori W, Aoki N, Shiga J, 31
**Ausprunk DH, Boudreau CL, Nelson DA:** Proteoglycans in the microvasculature: I. Histochemical localization in microvessels of the rabbit eye (June), 353
**Ausprunk DH, Boudreau CL, Nelson DA:** Proteoglycans in the microvasculature: II. Histochemical localization in proliferating capillaries of the rabbit cornea (June), 367

**Baker MA:** *See* Maheu M, Baker MA, Falk JA, Taub RN, 137
**Bass A:** *See* O'Flaherty JT, Wykle RL, Miller CH, Lewis JC, Waite M, Bass A, McCall CE, DeChatelet LR, 70
**Bender BL, Jaffe R, Carlin B, Chung AE:** Immunolocalization of entactin, a sulfated basement membrane component, in rodent tissues, and a comparison with GP-2 (laminin) (June), 419
**Bigner DD:** *See* Jones TR, Kao KJ, Pizzo SV, Bigner DD, 304
**Bishop DF:** *See* Faraggiana T, Churg J, Grishman E, Strauss L, Prado A, Bishop DF, Schuchman E, Desnick RJ, 247
**Blackmon JA, Chandler FW, Cherry WB, England AC III, Feeley JC, Hicklin MD, McKinney RM, Wilkinson HW:** Review Article: Legionellosis (June), 427
**Bladon T:** *See* Dardick I, Setterfield G, Hall R, Bladon T, Little J, Kaplan G, 10
**Boudreau CL:** *See* Ausprunk DH, Boudreau CL, Nelson DA, 353, 367
**Brinckerhoff CE, Harris ED Jr:** Survival of rheumatoid synovium implanted into nude mice (June), 411
**Brown RG:** *See* Sweeny PR, Brown RG, 201
**Bucana C:** *See* Sone S, Bucana C, Hoyer LC, Fidler IJ, 234
**Buja LM, Willerson JT:** Abnormalities of volume regulation and membrane integrity in myocardial tissue slices after early ischemic injury in the dog: Effects of mannitol, polyethylene glycol, and propranolol (April), 79

**Carlin B:** *See* Bender BL, Jaffe R, Carlin B, Chung AE, 419
**Castillo-Staab MI:** *See* Sorlie PD, Garcia-Palmieri MR, Castillo-Staab MI, Costas R Jr, Oalmann MC, Havlik R, 345
**Chandler FW:***See* Blackmon JA, Chandler FW, Cherry WB, England AC III, Feeley JC, Hicklin MD, McKinney RM, Wilkinson HW, 427
**Cherry WB:** *See* Blackmon JA, Chandler FW, Cherry WB, England AC III, Feeley JC, Hicklin MD, McKinney RM, Wilkinson HW, 427
**Chryssanthou C:** ANIMAL MODEL OF HUMAN DISEASE: Dysbaric osteonecrosis in mice (May), 348
**Chung AE:** *See* Bender BL, Jaffe R, Carlin B, Chung AE, 419
**Churg J:***See* Faraggiana T, Churg J, Grishman E, Strauss L, Prado A, Bishop DF, Schuchman E, Desnick RJ, 247
**Cook ML:** *See* Pepose JS, Stevens JG, Cook ML, Lampert PW, 309

**Corson JM, Pinkus GS:** Intracellular myoglobin—A specific marker for skeletal muscle differentiation in soft tissue sarcomas: An immunoperoxidase study (June), 384
**Costas R Jr:** *See* Sorlie PF, Garcia-Palmieri MR, Castillo-Staab MI, Costas R Jr, Oalmann MC, Havlik R, 345
**Crocket A:** *See* Rao SS, Watt IA, Donaldson LA, Crocket A, Joffe SN, 39

**Dardick I, Setterfield G, Hall R, Bladon T, Little J, Kaplan G:** Nuclear alterations during lymphocyte transformation: Relationship to the heterogeneous morphologic presentations of non-Hodgkin's lymphomas (April), 10
**DeChatelet LR:** *See* O'Flaherty JT, Wykle RL, Miller CH, Lewis JC, Wait M, Bass A, McCall CE, DeChatelet LR, 70
**De Moes D:** *See* Ruigrok TJC, De Moes D, Slade AM, Nayler WG, 390
**Desnick RJ:** *See* Faraggiana T, Churg J, Grishman E, Strauss L, Prado A, Bishop DF, Schuchman E, Desnick RJ, 247
**Dickey BF, Thrall RS, McCormick JR, Ward PA:** Oleic acid-induced lung injury in the rat: Failure of indomethacin treatment or complement depletion to ablate lung injury (June), 376
**Donaldson LA:** *See* Rao SS, Watt IA, Donaldson LA, Crocket A, Joffe SN, 39

**Emeis JJ, Lindeman J, Nieuwenhuizen W:** Immunoenzyme histochemical localization of fibrin degradation products in tissues (June), 337
**England AC III:** *See* Blackmon JA, Chandler FW, Cherry WB, England AC III, Feeley JC, Hicklin MD, McKinney RM, Wilkinson HW, 427

**Falk JA:** *See* Maheu M, Baker MA, Falk JA, Taub RN, 137
**Faraggiana T, Churg J, Grishman E, Strauss L. Prado A, Bishop DF, Schuchman E, Desnick RJ:** Light- and electron-microscopic histochemistry of Fabry's disease (May), 247
**Feeley JC:** *See* Blackmon JE, Chandler FW, Cherry WB, England AC III, Feeley JC, Hicklin MD, McKinney RM, Wilkinson HW, 427
**Ferrone S:** *See* Glassy MC, Ferrone S, 1
**Fiddler IJ:** *See* Sone S, Bucana C, Hoyer LC, Fidler IJ, 234

**Garcia-Palmieri MR:** *See* Sorlie PD, Garcia-Palmieri MR, Castillo-Staab MI, Costas R Jr, Oalmann MC, Havlik R, 345
**Gerrity RG:** The role of the monocyte in atherogenesis: II. Migration of foam cells from atherosclerotic lesions (May), 191
**Gerrity RG:** The role of the monocyte in atherogenesis: I. Transition of blood-borne monocytes into foam cells in fatty lesions (May), 181
**Giacomelli F:** *See* Grammas P, Giacomelli F, Wiener J, 226
**Glassy MC, Ferrone S:** Ultrastructural alterations in human lymphoblastoid B cell lines treated with tunicamycin (April), 1
**Gotlieb AI, Spector W:** Migration into an *in vitro* experimental wound: A comparison of porcine aortic endothelial and smooth muscle cells and the effect of culture irradiation (May), 271
**Gottlieb GJ, Kubo SH, Alonso DR:** Ultrastructural characterization of the border zone surrounding early experimental myocardial infarcts in dogs (May), 292
**Grammas P, Giacomelli F, Wiener J:** Carotid artery constriction in acute hypertension (May), 226
**Grishman E:** *See* Faraggiana T, Churg J, Grishman E, Strauss L, Prado A, Bishop DF, Schuchman E, Desnick RJ, 247

**Hall R:** *See* Dardick I, Setterfield G, Hall R, Bladon T, Little J, Kaplan G, 10
**Harris ED JR:** *See* Brinckerhoff CE, Harris ED Jr, 411
**Havlik R:** *See* Sorlie PD, Garcia-Palmieri MR, Castillo-Staab MI, Costas R Jr, Oalmann MC, Havlik R, 345
**Hess FG, McDowell EM, Trump BF:** REVIEW ARTICLE: Pulmonary cytology: Current status of cytologic typing of respiratory tract tumors (May), 321
**Hicklin MD:** *See* Blackmon JA, Chandler FW, Cherry WB, England AC III, Feeley JC, Hicklin MD, McKinney RM, Wilkinson HW, 427
**Hoyer LC:** *See* Sone S, Bucana C, Hoyer LC, Fidler IJ, 234

**Issekutz AC:** *See* Issekutz TB, Issekutz AC, Movat HZ, 47
**Issekutz TB, Issekutz AC, Movat HZ:** The *in vivo* quantitation and kinetics of monocyte migration into acute inflammatory tissue (April), 47

**Jaffe R:** *See* Bender BL, Jaffe R, Carlin B, Chung AE, 419
**Joffe SN:** *See* Rao SS, Watt IA, Donaldson LA, Crocket A, Joffe SN, 39
**Johnson EM Jr:** *See* Schmidt RE, Nelson JS, Johnson EM Jr, 210
**Jones TR, Kao KJ, Pizzo SV, Bigner DD:** Endothelial cell surface expression and binding of factor VIII/von Willebrand factor (May), 304

**Kageyama K:** *See* Aiba M, Suzuki H, Kageyama K, Murai M, Tazaki H, Abe O, Saruta T, 404
**Kao KJ:** *See* Jones TR, Kao KJ, Pizzo SV, Bigner DD, 304
**Kaplan G:** *See* Dardick I, Setterfield G, Hall R, Bladon T, Little J, Kaplan G, 10
**Kauffman SL:** Histogenesis of papillary Clara cell adenoma (May), 174
**Kelly RH:** *See* Stachura I, Whiteside TL, Kelly RH, 10
**Klein-Szanto AJP, Nettesheim P, Pine A, Martin D:** Distribution and ultrastructural characteristics of dark cells in squamous metaplasias of the respiratory tract epithelium (May), 263
**Koletsky S, Snajdar RM:** Atherosclerosis following balloon catheter injury to the carotid artery and the aorta of hypertensive rats with normolipidemia or hyperlipidemia (April), 105
**Kubo SH:** *See* Gottlieb GJ, Kubo SH, Alonso DR, 292

**Lampert PW:** *See* Pepose JS, Stebens JG, Cook ML, Lampert PW, 309
**Lebovitz HE:** *See* McCumbee WD, Lebovitz HE, McCarty KS Jr, 56
**Lewis JC:** *See* O'Flaherty JT, Wykle RL, Miller CH, Lewis JC, Waite M, Bass A, McCall CE, DeChatelet LR, 70
**Lindeman J:** *See* Emeis JJ, Lindeman J, Nieuwenhuizen W, 337
**Little J:** *See* Dardick I, Setterfield G, Hall R, Bladon T, Little J, Kaplan G, 10

**Maheu M, Baker MA, Falk JA, Taub RN:** REVIEW ARTICLE: Immunologic diagnosis and monitoring of human acute leukemias (April), 137
**Martin D:** *See* Klein-Szanto AJP, Nettesheim P, Pine A, Martin D, 263
**Martindale L:** *See* Wight PAL, Siller WG, Martindale L, 159
**McCall CE:** *See* O'Flaherty JT, Wykle RL, Miller CH, Lewis JC, Waite M, Bass A, McCall CE, DeChatelet LR, 70
**McCarty KS Jr:** *See* McCumbee WD, Lebovitz HE, McCarthy KS Jr, 56
**McCormick JR:** *See* Dickey BF, Thrall RS, McCormick JR, Ward PA, 376
**McCumbee WD, Lebovitz HE, McCarty KS Jr:** Hormone responsiveness of a transplantable rat chondrosarcoma:

III. Ultrastructural evidence of *in vivo* hormone dependence (April), 56
**McDowell EM:** *See* Hess FG, McDowell EM, Trump BF, 321
**McKinney RM:** *See* Blackmon JA, Chandler FW, Cherry WB, England AC III, Feeley JC, Hicklin MS, McKinney RM, Wilkinson HW, 427
**Miller CH:** *See* O'Flaherty JT, Wykle RL, Miller CH, Lewis JC, Waite M, Bass A, McCall CE, DeChatelet LR, 70
**Mori W, Aoki N, Shiga J:** Acute hepatic cell necrosis experimentally produced by viral agents in rabbits (April), 31
**Movat HZ:** *See* Issekutz TB, Issekutz AC, Movat HZ, 47
**Murai M:** *See* Aiba M, Suzuki H, Kageyama K, Murai M, Tazaki H, Abe O, Saruta T, 404
**Murphy-Ullrich JE:** *See* Oberley TD, Murphy-Ullrich JE, Muth JV, 129
**Muth JV:** *See* Oberley TD, Murphy-Ullrich JE, Muth JV, 129

**Nayler WG:** *See* Ruigrok TJC, De Moes D, Slade AM, Nayler WG, 390
**Nelson DA:** *See* Ausprunk DH, Boudreau CL, Nelson DA, 353, 367
**Nelson JS:** *See* Schmidt RE, Nelson JS, Johnson EM Jr, 210
**Nettesheim P:** *See* Klein-Szanto AJP, Nettesheim P, Pine A, Martin D, 263
**Nieuwenhuizen W:** *See* Emeis JJ, Lindeman J, Nieuwenhuizen W, 337
**Norrdin RW:** ANIMAL MODEL OF HUMAN DISEASE: Renal osteodystrophy in dogs with radiation nephropathy (June), 466

**Oalmann MC:** *See* Sorlie PD, Garcia-Palmieri MR, Castillo-Staab MI, Costas R Jr, Oalmann MC, Havlik R, 345
**Oberley TD, Murphy-Ullrich JE, Muth JV:** Morphologic and immunfluorescence studies of the effect of fibroblast growth factor on the culture of guinea pig glomerular cell strains (April), 129
**O'Flaherty JT, Wykle RL, Miller CH, Lewis JC, Waite M, Bass A, McCall CE, DeChatelet LR:** 1-O-Alkyl-sn-glyceryl-3-phosphorylcholines: A novel class of neutrophil stimulants (April), 70
**Ohno S:** *See* Reddy K, Ohno S, 96

**Payne CM:** Platelet satellitism: An ultrastructural study (April), 116
**Pepose JS, Stevens JG, Cook ML, Lampert PW:** Marek's disease as a model for the Landry-Guillain-Barré syndrome: Latent viral infection in nonneuronal cells accompanied by specific immune responses to peripheral nerve and myelin (May), 309
**Pine A:** *See* Klein-Szanto AJP, Nettesheim P, Pine A, Martin D, 263
**Pinkus GS:** *See* Corson JM, Pinkus GS, 384
**Pizzo SV:** *See* Jones TR, Kao KJ, Pizzo SV, Bigner DD, 304
**Prado A:** *See* Faraggiana T, Churg J, Grishman E, Strauss L, Prado A, Bishop DF, Schuchman E, Desnick RJ, 247

**Racusen LC:** *See* Solez K, Racusen LC, Whelton A, 163
**Rao SS, Watt IA, Donaldson LA, Crocket A, Joffe SN:** A serial histologic study of the development and progression of acute pancreatitis in the rat (April), 39
**Reddy JK, Ohno S:** Testicular feminization of the mouse: Paucity of peroxisomes in Leydig cells of the testis (April), 96
**Ruigrok TJC, De Moes D, Slade AM, Nayler WG:** The effect of dimethylsulfoxide on the calcium paradox (June), 390

**Saruta T:** *See* Aiba M, Suzuki H, Kageyama K, Murai M, Tazaki H, Abe O, Saruta T, 404
**Schmidt RE, Nelson JS, Johnson EM Jr:** Experimental diabetic autonomic neuropathy (May), 210
**Schuchman E:** *See* Faraggiana T, Churg J, Grishman E, Strauss L, Prado A, Bishop DF, Schuchman E, Desnick RJ, 247
**Setterfield G:** *See* Dardick I, Setterfield G, Hall R, Bladon T, Little J, Kaplan G, 10
**Shiga J:** *See* Mori W, Aoki N, Shiga J, 31
**Siller WG:** *See* Wight PAL, Siller WG, Martindale L, 159
**Slade AM:** *See* Ruigrok TJC, De Moes D, Slade AM, Nayler WG, 390
**Snajdar RM:** *See* Koletsky S, Snajdar RM, 105
**Solez K, Racusen LC, Whelton A:** Glomerular epithelial cell changes in early postischemic acute renal failure in rabbits and man (May), 163
**Sone S, Bucana C, Hoyer LC, Fidler IJ:** Kinetics and ultrastructural studies of the induction of rat alveolar macrophage fusion by mediators released from mitogen-stimulated lymphocytes (May), 234
**Sorlie PD, Garcia-Palmieri MR, Castillo-Staab MI, Costas R Jr, Oalmann MC, Havlik R:** The relation of antemortem factors to atherosclerosis at autopsy: The Puerto Rico health program (June), 345
**Spector W:** *See* Gotlieb AI, Spector W, 271
**Stachura I, Whiteside TL, Kelly RH:** Circulating and deposited immune complexes in patients with glomerular disease: Immunopathologic correlations (April), 21
**Stevens JG:** *See* Pepose JS, Stevens JG, Cook ML, Lampert PW, 309
**Strauss L:** *See* Faraggiana T, Churg J, Grishman E, Strauss L, Prado A, Bishop DF, Schuchman E, Desnick RJ, 247
**Strum JM:** Pale cell carcinoma: Ultrastructure of a hormone-dependent mammary tumor in GR mice (May), 283
**Suzuki H:** *See* Aiba M, Suzuki H, Kageyama K, Murai M, Tazaki H, Abe O, Saruta T, 404
**Sweeney PR, Brown RG:** Ultrastructural studies on the gastrocnemius tendon of selenium-deficient ducklings (May), 201

**Taub RN:** *See* Maheu M, Baker MA, Falk JA, Taub RN, 137
**Tazaki H:** *See* Aiba M, Suzuki H, Kageyama K, Murai M, Tazaki H, Abe O, Saruta T, 404
**Thrall RS:** *See* Dickey BF, Thrall RS, McCormick JR, Ward PA, 376
**Trump BF:** *See* Hess FG, McDowell EM, Trump BF, 321

**Waite M:** *See* O'Flaherty JT, Wykle RL, Miller CH, Lewis JC, Waite M, Bass A, McCall CE, DeChatelet LR, 70
**Ward PA:** *See* Dickey BF, Thrall RS, McCormick JR, Ward PA, 376
**Watt IA:** *See* Rao SS, Watt IA, Donaldson LA, Crocket A, Joffe SN, 39
**Whelton A:** *See* Solez K, Racusen LC, Whelton A, 163
**Whiteside TL:** *See* Stachura I, Whiteside TL, Kelly RH, 10
**Wiener J:** *See* Grammas P, Giacomelli F, Wiener J, 226
**Wight PAL, Siller WG, Martindale L:** ANIMAL MODEL OF HUMAN DISEASE: March gangrene: Deep pectoral myopathy, Oregon disease, green muscle disease (April), 159
**Wilkinson HW:** *See* Blackmon JA, Chandler FW, Cherry WB, England AC III, Feeley JC, Hicklin MD, McKinney RM, Wilkinson HW, 427
**Willerson JT:** *See* Buja LM, Willerson JT, 79
**Wykle RL:** *See* O'Flaherty JT, Wykle RL, Miller CH, Lewis JC, Waite M, Bass A, McCall CE, DeChatelet LR, 70

# The American Journal of PATHOLOGY

OFFICIAL JOURNAL OF
THE AMERICAN ASSOCIATION OF PATHOLOGISTS

Volume 103, 1981

(April Through June)

BOARD OF EDITORS
Donald B. Hackel, Editor-in-Chief
F. Stephen Vogel, Associate Editor

Dolph O. Adams
Raymond D. Adams
Carl G. Becker
Frederick F. Becker
Baruj Benacerraf
Kurt Benirschke
Colin Bloor
Joel G. Brunson
L. Maximilian Buja
John E. Craighead
Frank J. Dixon, Jr.
Thomas S. Edgington
John T. Ellis
Emmanuel Farber
Frank W. Fitch
Patrick J. Fitzgerald
David G. Freiman
Godfrey S. Getz
Thomas J. Gill III
Gabriel Godman
John B. Hazard
T. Carl Jones
Michael Kashgarian
Werner H. Kirsten
Paul Kotin
Marvin S. Kuschner
Michael W. Lieberman
Guido Majno
Reginald G. Mason
A. Rees Midgley, Jr.
Donald G. McKay
Councilman Morgan
Richard L. Naeye
Peter Nowell
Carl W. Pierce
Henry C. Pitot
Alan S. Rabson
Norman B. Ratliff, Jr.
Edward P. Richardson, Jr.
Goetz W. Richter
Russell Ross
David T. Rowlands, Jr.
Herschel Sidransky
Edward A. Smuckler
Leon Sokoloff
Benjamin H. Spargo
Lewis Thomas
W. M. Thurlbeck
Peter A. Ward
Noel L. Warner
Dorothea Zucker-Franklin

*Editorial Assistant*: Sara Lyon

*EIGHTY YEARS OF PUBLICATION*

**THE AMERICAN ASSOCIATION of PATHOLOGISTS**

COPYRIGHT © 1981
BY THE AMERICAN ASSOCIATION OF PATHOLOGISTS

The American Journal of PATHOLOGY

CONTENTS FOR VOLUME 103, 1981

**April 1981**

1 Ultrastructural Alterations in Human Lymphoblastoid B Cell Lines Treated With Tunicamycin
*Mark C. Glassy and Soldano Ferrone*

10 Nuclear Alterations During Lymphocyte Transformation: Relationship to the Heterogeneous Morphologic Presentations of Non-Hodgkin's Lymphomas
*I. Dardick, G. Setterfield, R. Hall, T. Bladon, J. Little, and G. Kaplan*

21 Circulating and Deposited Immune Complexes in Patients With Glomerular Disease: Immunopathologic Correlations
*Irene Stachura, Theresa L. Whiteside, and R. H. Kelly*

31 Acute Hepatic Cell Necrosis Experimentally Produced by Viral Agents in Rabbits
*Wataru Mori, Naoto Aoki, and Junji Shiga*

39 A Serial Histologic Study of the Development and Progression of Acute Pancreatitis in the Rat
*S. S. Rao, I. A. Watt, L. A. Donaldson, A. Crocket, and Stephen N. Joffe*

47 The *In Vivo* Quantitation and Kinetics of Monocyte Migration Into Acute Inflammatory Tissue
*Thomas B. Issekutz, Andrew C. Issekutz, and Henry Z. Movat*

56 Hormone Responsiveness of a Transplantable Rat Chondrosarcoma: III. Ultrastructural Evidence of *In Vivo* Hormone Dependence
*William D. McCumbee, Harold E. Lebovitz, and Kenneth S. McCarty*

70 1-O-Alkyl-*sn*-glyceryl-3-phosphorylcholines: A Novel Class of Neutrophil Stimulants
*J. T. O'Flaherty, R. L. Wykle, C. H. Miller, J. C. Lewis, M. Waite, D. A. Bass, C. E. McCall, and L. R. DeChatelet*

79 Abnormalities of Volume Regulation and Membrane Integrity in Myocardial Tissue Slices After Early Ischemic Injury in the Dog: Effects of Mannitol, Polyethylene Glycol, and Propranolol
*L. Maximilian Buja and James T. Willerson*

96 Testicular Feminization of the Mouse: Paucity of Peroxisomes in Leydig Cells of the Testis
*Janardan K. Reddy and Susumu Ohno*

105 Atherosclerosis Following Balloon Catheter Injury to the Carotid Artery and the Aorta of Hypertensive Rats With Normolipidemia or Hyperlipidemia
*Simon Koletsky and Rudolf M. Snajdar*

116 Platelet Satellitism: An Ultrastructural Study
*Claire M. Payne*

129 Morphologic and Immunofluorescence Studies of the Effect of Fibroblast Growth Factor on the Culture of Guinea Pig Glomerular Cell Strains
*Terry D. Oberley, Joanne E. Murphy-Ullrich, and J. Vic Muth*

137 REVIEW ARTICLE: Immunologic Diagnosis and Monitoring of Human Acute Leukemias
*Michel Maheu, Michael A. Baker, Judith A. Falk, and Robert N. Taub*

159 Animal Model of Human Disease: March Gangrene
*P. A. L. Wight, W. G. Siller, and L. Martindale*

**May 1981**

163 Glomerular Epithelial Cell Changes in Early Postischemic Acute Renal Failure in Rabbits and Man
*Kim Solez, Lorraine C. Racusen, and Andrew Whelton*

174 Histogenesis of the Papillary Clara Cell Adenoma
*Shirley L. Kauffman*

181 The Role of the Monocyte in Atherogenesis: I. Transition of Blood-Borne Monocytes Into Foam Cells in Fatty Lesions
*Ross G. Gerrity*

191 The Role of the Monocyte in Atherogenesis: II. Migration of Foam Cells From Atherosclerotic Lesions
*Ross G. Gerrity*

201 Ultrastructural Studies on the Gastrocnemius Tendon of Selenium-Deficient Ducklings
*Phillip R. Sweeny and R. G. Brown*

210 Experimental Diabetic Autonomic Neuropathy
*Robert E. Schmidt, James S. Nelson, and Eugene M. Johnson, Jr.*

226 Carotid Artery Constriction in Acute Hypertension
*Paula Grammas, Filiberto Giacomelli, and Joseph Wiener*

234 Kinetics and Ultrastructural Studies of the Induction of Rat Alveolar Macrophage Fusion by Mediators Released From Mitogen-Stimulated Lymphocytes
*Saburo Sone, Corazon Bucana, Lawrence C. Hoyer, and Isaiah J. Fidler*

247 Light- and Electron-Microscopic Histochemistry of Fabry's Disease
*T. Faraggiana, J. Churg, E. Grishman, L. Strauss, A. Prado, D. F. Bishop, E. Schuchman, and R. J. Desnick*

263 Distribution and Ultrastructural Characteristics of Dark Cells in Squamous Metaplasias of the Respiratory Tract Epithelium
*A. J. P. Klein-Szanto, P. Nettesheim, A. Pine, and D. Martin*

271 Migration Into an *In Vitro* Experimental Wound: A Comparison of Porcine Aortic Endothelial and Smooth Muscle Cells and the Effect of Culture Irradiation
*Avrum I. Gotlieb and Wendy Spector*

283 Pale Cell Carcinoma: Ultrastructure of a Hormone-Dependent Mammary Tumor in GR Mice
*Judy M. Strum*

292 Ultrastructural Characterization of the Border Zone Surrounding Early Experimental Myocardial Infarcts in Dogs
*Geoffrey J. Gottlieb, Spencer H. Kubo, and Daniel R. Alonso*

304 Endothelial Cell Surface Expression and Binding of Factor VIII/von Willebrand Factor
*T. R. Jones, K. J. Kao, S. V. Pizzo, and D. D. Bigner*

309 Marek's Disease as a Model for the Landry–Guillain–Barré Syndrome: Latent Viral Infection in Nonneuronal Cells Accompanied by Specific Immune Responses to Peripheral Nerve and Myelin
*Jay S. Pepose, Jack G. Stevens, Margery L. Cook, and Peter W. Lampert*

321 REVIEW ARTICLE: Pulmonary Cytology: Current Status of Cytologic Typing of Respiratory Tract Tumors
*Frederick G. Hess, Jr., Elizabeth M. McDowell, and Benjamin F. Trump*

334 **Animal Model of Human Disease:** Dysbaric Osteonecrosis
*C. Chryssanthou*

**June 1981**

337 Immunoenzyme Histochemical Localization of Fibrin Degradation Products in Tissues
*J. J. Emeis, J. Lindeman, and W. Nieuwenhuizen*

345 The Relation of Antemortem Factors to Atherosclerosis at Autopsy: The Puerto Rico Heart Health Program
*Paul D. Sorlie, Mario R. Garcia-Palmieri, Maria I. Castillo-Staab, Raul Costas, Jr., Margaret C. Oalmann, and Richard Havlik*

353 Proteoglycans in the Microvasculature: I. Histochemical Localization in Microvessels of the Rabbit Eye
*D. H. Ausprunk, C. L. Boudreau, and D. A. Nelson*

367 Proteoglycans in the Microvasculature: II. Histochemical Localization in Proliferating Capillaries of the Rabbit Cornea
*D. H. Ausprunk, C. L. Boudreau, and D. A. Nelson*

376 Oleic-Acid–Induced Lung Injury in the Rat: Failure of Indomethacin Treatment or Complement Depletion to Ablate Lung Injury
*Burton F. Dickey, Roger S. Thrall, James R. McCormick, and Peter A. Ward*

384 Intracellular Myoglobin—A Specific Marker for Skeletal Muscle Differentiation in Soft Tissue Sarcomas: An Immunoperoxidase Study
*Joseph M. Corson and Geraldine S. Pinkus*

390 The Effect of Dimethylsulfoxide on the Calcium Paradox
*T. J. C. Ruigrok, D. de Moes, A. M. Slade, and W. G. Nayler*

404 Spironolactone Bodies in Aldosteronomas and in the Attached Adrenals: Enzyme Histochemical Study of 19 Cases of Primary Aldosteronism and a Case of Aldosteronism Due to Bilateral Diffuse Hyperplasia of the Zona Glomerulosa
*Motohiko Aiba, Hiroshi Suzuki, Keizo Kageyama, Masaru Murai, Hiroshi Tazaki, Osahiko Abe, and Takao Saruta*

411 Survival of Rheumatoid Synovium Implanted Into Nude Mice
*Constance E. Brinckerhoff and Edward D. Harris, Jr.*

419 Immunolocalization of Entactin, a Sulfated Basement Membrane Component, in Rodent Tissues, and Comparison with GP-2 (Laminin)
*B. L. Bender, R. Jaffe, B. Carlin, and A. E. Chung*

427 REVIEW ARTICLE: Legionellosis
*John A. Blackmon, Francis W. Chandler, William B. Cherry, Albert C. England III, James C. Feeley, Martin D. Hicklin, Roger M. McKinney, and Hazel W. Wilkinson*

466 **Animal Model of Human Disease:** Renal Osteodystrophy in Dogs With Radiation Nephropathy
*Robert W. Norrdin*

470 Index of Subjects

472 Index of Authors

# *Index of Subjects*

Volume 104, 1981


**Adrenal gland**
mononuclear phagocytes of, 258
**Aleukia**
alimentary toxic, animal model of, 189
**Alimentary tract**
toxic aleukia of, animal model of, 189
**American Association of Pathologists**
annual business meeting of, 283
**Animal models of human disease**
alimentary toxic aleukia, 189
hereditary multiple exostoses, 285
strokes in rats, 103
**APUD cells**
in teratomas, 174
**Arachidonic acid**
neutrophil response to, 55

**Bone**
collagen in xenotransplanted chondroblastic osteosarcoma, 217
hereditary multiple exostoses in horses, 285
remodeling affected by vitamin D metabolites, 41
vitamin $D_3$ effects in uremic osteomalacia, 35
**Brain**
cerebral artery ligation in rats, 103
neurofibrillary tangles in, 77
trimethyltin neurotoxicity, 237
**Breast**
histologic changes in menstrual cycle, 23

**Cerebral artery**
ligation in rats, 103
**Chediak-Higashi defect**
murine, mast cell degranulation in, 142
**Chemotaxis**
neutrophil, in newborn, 98
of tumor cells, 69
**Cirrhosis**
IgA glomerular deposits in, 50
**Collagen**
in xenotransplanted chondroblastic osteosarcoma, 217
**Coronary artery**
lesions in trout, 250
**Cytomegalovirus infection**
splenic histopathology in, 90

**Diabetes**
isografts of pancreatic islets in, 227
**Diethylcarbamazine**
in filarial nephropathy in dogs, 1
**1,25-Dihydroxyvitamin $D_3$**
and cortical bone remodeling, 41
in uremic osteomalacia, 35
**Dirofilaria immitis infection**
nephropathy in, 1
pulmonary artery changes in, 13

**Eicosatetraenoates**
neutrophil response to, 55
**Electron microscopy**
of adrenal mononuclear phagocytes, 258
of coronary artery lesions in trout, 250
of mast cell degranulation in beige mice, 142
of trimethyltin neurotoxicity, 237
**Endotoxins**
and platelet secretory responses, 196
**Enolase**
neuron-specific, in Merkel cells, 63
**Exostoses**
hereditary multiple, in horses, 285

**Filarial infection in dogs**
nephropathy in, 1
pulmonary artery changes in, 13
**Freeze-fracture studies**
of muscle caveolae in dystrophy, 167

**Gold Headed Cane Award**, 109

**Heart**
dysfunction of, hepatic morphology in, 159
**Heartworms**
nephropathy with, 1
pulmonary artery changes with, 13
**Heparin**
affecting platelets, 132

**Immune responses**
in cytomegalovirus infection, 90
**Immunocytochemistry**
of neurofibrillary tangles, 77
**Immunofluorescence**
of intermediate filament proteins in neoplastic cells, 206
**Immunoglobulins**
glomerular IgA deposits in cirrhosis, 50
platelet secretory responses to, 196
**Immunopathology**
of filarial nephropathy in dogs, 1
of lymphomas from wild mouse leukemia virus, 272
**Immunostaining**
of Merkel cells, 63
**Inflammation**
and tumor growth, 114, 125

**Kidney**
in diabetes, after isografts of pancreatic islets, 227
filarial nephropathy in dogs, 1
growth of glomerular cells in defined medium, 181
IgA glomerular deposits in cirrhosis, 50
vitamin $D_3$ in uremic bone disease, 35

**Leukemia virus**
murine, lymphomas from, 272
**Lieberman, Michael**
award for, 195

**Liver**
cirrhosis with IgA glomerular deposits, 50
morphology in cardiac dysfunction, 159
**Lung**
inflammation in schistosomiasis, 150
**Lymphomas**
from wild mouse leukemia virus, 272

**Macrophages**
and tumor growth, 114, 125
**Mast cells**
degranulation in beige mice, 142
**Menstrual cycle**
and histologic changes in breast, 23
**Merkel cells**
neuron-specific enolase in, 63
**Metastasis**
and chemotactic response of tumor cells, 69
**Mitogens**
and tumor growth, 125
**Mononuclear phagocytes**
of adrenals, 258
**Muscle**
caveolae in muscular dystrophy, 167
**Mycotoxicosis**
and alimentary toxic aleukia, 189

**Neoplasia**
APUD cells in teratomas, 174
chemotactic response of tumor cells, 69
inflammation and tumor growth, 114, 125
intermediate filament proteins in cells of, 206
lymphomas from wild mouse leukemia virus, 272
xenotransplanted chondroblastic osteosarcoma, 217
**Neurofibrillary tangles**
immunocytochemistry of, 77
**Neuron-specific enolase**
in Merkel cells, 63
**Neurotoxicity**
of trimethyltin, 237
**Neutrophils**
eicosatetraenoates affecting, 55
irreversible aggregation of, 98

**Osteomalacia**
uremic, vitamin $D_3$ in, 35
**Osteosarcoma**
chondroblastic, xenotransplanted, 217

**Pancreas**
islet isografts in diabetes, 227
**Phagocytes**
mononuclear, of adrenals, 258
**Platelets**
adhesion in pulmonary arteries, 13
heparin affecting, 132
secretory responses to immunoglobulins, 196
**Prostaglandins**
and growth of glomerular cells in defined medium, 181
**Pulmonary arteries**
myointimal proliferation in, 13

**Schistosomiasis**
pulmonary inflammation in, 150
**Skin**
immunostaining of Merkel cells in, 63
**Spleen**
in cytomegalovirus infection, 90
**Stroke**
animal model of, 103

**Teratomas**
APUD cells in, 174
**Thromboxane $A_2$**
heparin affecting production of, 132
**Trimethyltin**
neuronal toxicity of, 237
**Tumors.**
*See* Neoplasia

**Uremia**
osteomalacia in, vitamin $D_3$ in, 35

**Vasculature**
cerebral artery ligation in rats, 103
coronary artery lesions in trout, 250
myointimal proliferation in pulmonary arteries, 13
**Viruses**
lymphomas from wild mouse leukemia virus, 272
spleen in cytomegalovirus infection, 90
**Vitamin D metabolites**
and cortical bone remodeling, 41
in uremic osteomalacia, 35

**Warner-Lambert Parke-Davis Award,** 195

# *Index of Authors*

## Volume 104, 1981

**Abramowsky CR, Powers KG, Aikawa M, Swinehart G:** *Dirofilaria immitis*: 5. Immunopathology of filarial nephropathy in dogs (July), 1
**Aikawa M:** *See* Abramowsky CR, Powers KG, Aikawa M, Swinehart G, 1
**Anderson WH:** *See* Mohammad SF, Anderson WH, Smith JB, Chuang HYK, Mason RG, 132
**Arcidi JM Jr, Moore GW, Hutchins GM:** Hepatic morphology in cardiac dysfunction: A clinicopathologic study of 1000 subjects at autopsy (August), 159

**Azar HA:** *See* Lanzer WL, Liotta LA, Yee C, Azar HA, Costa J, 217

**Bagnell CR**: *See* Bouldin TW, Goines ND, Bagnell CR, Krigman MR, 237
**Barazzone P**: *See* Gabbiani G, Kapanci Y, Barazzone P, Franke WW, 206
**Becker FF**: Presentation of the Warner-Lambert Parke-Davis Award to Dr. Michael W. Lieberman (September), 195
**Benditt EP**: *See* House EW, Benditt EP, 250
**Black HE**: *See* High WB, Capen CC, Black HE, 41
**Bonilla E, Fischbeck K, Schotland DL**: Freeze-fracture studies of muscle caveolae in human muscular dystrophy (August), 167
**Booss J**: *See* Lucia HL, Booss J, 90
**Bosman FT, Louwerens J-WK**: APUD cells in teratomas (August), 174
**Bouldin TW, Goines ND, Bagnell CR, Krigman MR**: Pathogenesis of trimethyltin neuronal toxicity: Ultrastructural and cytochemical observations (September), 237
**Brinkhous KM**: Acceptance of the Gold Headed Cane Award (August), 111
**Bryant ML, Scott JL, Pal BK, Estes JD, Gardner MB**: Immunopathology of natural and experimental lymphomas induced by wild mouse leukemia virus (September), 272
**Burgess DP**: *See* Mease AD, Burgess DP, Thomas PJ, 98

**Capen CC**: *See* High WB, Capen CC, Black HE, 41
**Carter WM**: *See* Mandel TE, Hoffman L, Carter WM, 227
**Chuang HYK**: *See* Mohammad SF, Anderson WH, Smith JB, Chuang HYK, Mason RG, 132
**Clarkson AR**: *See* Gormly AA, Smith PS, Seymour AE, Clarkson AR, Woodroffe AJ, 50
**Costa J:** *See* Lanzer WL, Liotta LA, Yee C, Azar HA, Costa J, 217

**Delikatny J**: *See* Lam WC, Delikatny J, Orr FW, Wass J, Varani J, Ward PA, 69

**Estes JD**: *See* Byrant ML, Scott JL, Pal BK, Estes JD, Gardner MB, 272

**Fetter BF**: *See* Vogel PM, Georgiade NG, Fetter BF, Vogel FS, McCarty KS Jr, 23
**Fischbeck K**: *See* Bonilla E, Fischbeck K, Schotland DL, 167
**Franke WW**: *See* Gabbiani G, Kapanci Y, Barazzone P, Franke WW, 206

**Gabbiani G, Kapanci Y, Barazzone P, Franke WW**: Immunochemical identification of intermediate-size filaments in human neoplastic cells: A diagnostic aid for the surgical pathologist (September), 206
**Gardner EJ**: *See* Shupe JL, Leone NC, Gardner EJ, Olson AE, 285
**Gardner MB**: *See* Bryant ML, Scott JL, Pal BK, Estes JD, Gardner MB, 272
**Gaskin F**: *See* Yen S-HC, Gaskin F, Terry RD, 77
**Georgiade NG:** *See* Vogel PM, Georgiade NG, Fetter BF, Vogel FS, McCarty KS Jr, 23
**Goines ND**: *See* Bouldin TW, Goines ND, Bagnell CR, Krigman MR, 237
**Gormly AA, Smith PS, Seymour AE, Clarkson AR, Woodroffe AJ**: IgA glomerular deposits in experimental cirrhosis (July), 50
**Gu J, Polak JM, Tapia FJ, Marangos PJ, Pearse AGE**: Neuron-specific enolase in the Merkel cells of mammalian skin: The use of specific antibody as a simple and reliable histologic marker (July), 63

**High WB, Capen CC, Black HE**: Histomorphometric evaluation of the effects of intermittent 1,25-dihydroxycholecalciferol administration on cortical bone remodeling in adult dogs (July), 41
**Hoffman L**: *See* Mandel TE, Hoffman L, Carter WM, 227
**Hopper KE**: *See* Nelson M, Nelson DS, Hopper KE, 114
**House EW, Benditt EP**: The ultrastructure of spontaneous coronary arterial lesions in steelhead trout (*Salmo gairdneri*) (September), 250
**Hutchins GM**: *See* Arcidi JM Jr, Moore GW, Hutchins GM, 159

**Kapanci Y**: *See* Gabbiani G, Kapanci Y, Barazzone P, Franke WW, 206
**Keith JC Jr**: *See* Schaub RG, Rawlings CA, Keith JC Jr, 13
**Krigman MR**: *See* Bouldin TW, Goines ND, Bagnell CR, Krigman MR, 237

**Lam WC, Delikatny J, Orr FW, Wass J, Varani J, Ward PA**: The chemotactic response of tumor cells: A model for cancer metastasis (July), 69
**Landes RR, Morrison DC**: Biochemical mechanisms of lipid-A-mediated enhancement of platelet secretory responses to aggregated immunoglobulins (September), 196
**Lees CJ**: *See* O'Flaherty JT, Thomas MJ, Lees CJ, McCall CE, 55
**Leone NC**: *See* Shupe JL, Leone NC, Gardner EJ, Olson AE, 285
**Liotta LA**: *See* Lanzer WL, Liotta LA, Yee C, Azar HA, Costa J, 217
**Liu PI**: *See* Poon KC, Liu PI, Spicer SS, 142
**Louwerens J-WK**: *See* Bosman FT, Louwerens J-WK, 174
**Lucia HL, Booss J**: Immune stimulation, inflammation, and changes in hematopoiesis: Host responses of the murine spleen to infection with cytomegalovirus (July), 90
**Lutsky II, Mor N**: ANIMAL MODEL OF HUMAN DISEASE: Alimentary toxic aleukia (septic angina, endemic panmyelotoxicosis, alimentary hemorrhagic aleukia): T-2 toxin-induced intoxication of cats (August), 189

**Mahmoud AAF**: *See* Olveda RM, Olds GR, Mahmoud AAF, 150
**Mandel TE, Hoffman L, Carter WM**: Long-term isografts of cultured fetal mouse pancreatic islets (September), 227
**Marangos PJ**: *See* Gu J, Polak JM, Tapia FJ, Marangos PJ, Pearse AGE, 63
**Mason RG:** Presentation of the Gold Headed Cane Award to Kenneth M. Brinkhous (August), 107
**Mason RG**: *See* Mohammad SF, Anderson WH, Smith JB, Chuang HYK, Mason RG, 132
**McCall CE**: *See* O'Flaherty JT, Thomas MJ, Lees CJ, McCall CE, 55
**McCarty KS Jr**: *See* Vogel PM, Georgiade NG, Fetter BF, Vogel FS, McCarty KS Jr, 23
**Mease AD, Burgess DP, Thomas PJ**: Irreversible neutrophil aggregation: A mechanism of decreased newborn neutrophil chemotactic response (July), 98
**Mohammad SF, Anderson WH, Smith JB, Chuang HYK, Mason RG**: Effects of heparin on platelet aggregation and release and thromboxane $A_2$ production (August), 132

**Moore GW**: *See* Arcidi JM Jr, Moore GW, Hutchins GM, 159
**Mor N**: *See* Lutsky II, Mor N, 189
**Morrison DC**: *See* Landes RR, Morrison DC, 196
**Murphy-Ullrich JE**: *See* Oberley TD, Murphy-Ullrich JE, Steinert BW, Muth JV, 181
**Muth JV**: *See* Oberley TD, Murphy-Ullrich JE, Steinert BW, Muth JV, 181

**Nelson DS**: *See* Nelson M, Nelson DS, 125
**Nelson DS**: *See* Nelson M, Nelson DS, Hopper KE, 114
**Nelson M, Nelson DS**: Inflammation and tumor growth: II. Tumor growth at sites of inflammation induced by mitogens in mice (August), 125
**Nelson M, Nelson DS, Hopper KE**: Inflammation and tumor growth: I. Tumor growth in mice with depressed capacity to mount inflammatory responses: Possible role of macrophages (August), 114

**Oberley TD, Murphy-Ullrich JE, Steinert BW, Muth JV**: The growth of primary glomerular cells as a confluent monolayer in a chemically defined serum-free medium: Specific requirements for prostaglandins and extracellular matrix molecules (August), 181
**O'Flaherty JT, Thomas MJ, Lees CJ, McCall CE**: Neutrophil-aggregating activity of monohydroxyeicosatetraenoic acids (July), 55
**Olds GR**: *See* Olveda RM, Olds GR, Mahmoud AAF, 150
**Olson AE**: *See* Shupe JL, Leone NC, Gardner EJ, Olson AE, 285
**Olveda RM, Olds GR, Mahmoud AAF**: Quantification, dynamics, and mechanisms of pulmonary inflammatory response around schistosomule of *Schistosoma mansoni* (August), 150
**Orr FW**: *See* Lam WC, Delikatny J, Orr FW, Wass J, Varani J, Ward PA, 69

**Pal BK**: *See* Bryant ML, Scott JL, Pal BK, Estes JD, Gardner MB, 272
**Papadimitriou JM**: *See* Surless SV, Papadimitriou JM, 258
**Pearse AGE**: *See* Gu J, Polak JM, Tapia FJ, Marangos PJ, Pearse AGE, 63
**Polak JM**: *See* Gu J, Polak JM, Tapia FJ, Marangos PJ, Pearse AGE, 63
**Poon KC, Liu PI, Spicer SS**: Mast cell degranulation in beige mice with Chédiak-Higashi defect (August), 142
**Powers KG**: *See* Abramowsky CR, Powers KG, Aikawa M, Swinehart G, 1

**Rawlings CA**: *See* Schaub RG, Rawlings CA, Keith JC Jr, 13
**Robinson RG**: ANIMAL MODEL OF HUMAN DISEASE: A model for the study of stroke using the rat: Surgical ligation of the middle cerebral artery in the rat (July), 103

**Schaub RG, Rawlings CA, Keith JC Jr**: Platelet adhesion and myointimal proliferation in canine pulmonary arteries (July), 13
**Schotland DL**: *See* Bonilla E, Fischbeck K, Schotland DL, 167
**Scott JL**: *See* Bryant ML, Scott JL, Pal BK, Estes JD, Gardner MB, 272
**Seymour AE**: *See* Gormly AA, Smith PS, Seymour AE, Clarkson AR, Woodroffe AF, 50
**Shupe JL, Leone NC, Gardner EJ, Olson AE**: ANIMAL MODEL OF HUMAN DISEASE: Hereditary multiple exostoses: Hereditary multiple exostoses in horses (September), 285
**Smith JB**: *See* Mohammad SF, Anderson WH, Smith JB, Chuang HYK, Mason RG, 132
**Smith PS**: *See* Gormly AA, Smith PS, Seymour AE, Clarkson AR, Woodroffe AJ, 50
**Spicer SS**: *See* Poon KC, Liu PI, Spicer SS, 142
**Steinert BW**: *See* Oberley TD, Murphy-Ullrich JE, Steinert BW, Muth JV, 181
**Surless SV, Papadimitriou JM**: The mononuclear phagocytes of the rat adrenal (September), 258
**Swinehart G**: *See* Abramowsky CR, Powers KG, Aikawa M, Swinehart G, 1

**Tapia FJ**: *See* Gu J, Polak JM, Tapia FJ, Marangos PJ, Pearse AGE, 63
**Terry RD**: *See* Yen S-HC, Gaskin F, Terry RD, 77
**Thomas MJ**: *See* O'Flaherty JT, Thomas MJ, Lees CJ, McCall CE, 55
**Thomas PJ**: *See* Mease AD, Burgess DP, Thomas PJ, 98

**Varani J**: *See* Lam WC, Delikatny J, Orr FW, Wass J, Varani J, Ward PA, 69
**Vogel FS**: *See* Vogel PM, Georgiade NG, Fetter BF, Vogel FS, McCarty KS Jr, 23
**Vogel PM, Georgiade NG, Fetter BF, Vogel FS, McCarty KS Jr**: The correlation of histologic changes in the human breast with the menstrual cycle (July), 23

**Ward PA**: *See* Lam WC, Delikatny J, Orr FW, Wass J, Varani J, Ward PA, 69
**Wass J**: *See* Lam WC, Delikatny J, Orr FW, Wass J, Varani J, Ward PA, 69
**Weisbrode SE**: Short-term effects of vitamin $D_3$ and 1,25-dihydroxyvitamin $D_3$ on osteomalacia in uremic rats fed a low-calcium–low-phosphorus diet (July), 35
**Woodroffe AJ**: *See* Gormly AA, Smith PS, Seymour AE, Clarkson AR, Woodroffe AJ, 50

**Yee C**: *See* Lanzer WL, Liotta LA, Yee C, Azar HA, Costa J, 217
**Yen S-HC, Gaskin F, Terry RD**: Immunocytochemical studies of neurofibrillary tangles (July), 77

# The American Journal of PATHOLOGY

OFFICIAL JOURNAL OF
THE AMERICAN ASSOCIATION OF PATHOLOGISTS

Volume 104, 1981

(July Through September)

BOARD OF EDITORS
Donald B. Hackel, Editor-in-Chief
F. Stephen Vogel, Associate Editor

Dolph O. Adams
Raymond D. Adams
Carl G. Becker
Frederick F. Becker
Baruj Benacerraf
Kurt Benirschke
Colin Bloor
Joel G. Brunson
L. Maximilian Buja
John E. Craighead
Frank J. Dixon, Jr.
Thomas S. Edgington
John T. Ellis
Emmanuel Farber
Frank W. Fitch
Patrick J. Fitzgerald
David G. Freiman
Godfrey S. Getz
Thomas J. Gill III
Gabriel Godman
John B. Hazard
T. Carl Jones
Michael Kashgarian
Werner H. Kirsten
Paul Kotin
Marvin S. Kuschner
Michael W. Lieberman
Guido Majno
Reginald G. Mason
A. Rees Midgley, Jr.
Donald G. McKay
Councilman Morgan
Richard L. Naeye
Peter Nowell
Carl W. Pierce
Henry C. Pitot
Alan S. Rabson
Norman B. Ratliff, Jr.
Edward P. Richardson, Jr.
Goetz W. Richter
Russell Ross
David T. Rowlands, Jr.
Herschel Sidransky
Edward A. Smuckler
Leon Sokoloff
Benjamin H. Spargo
Lewis Thomas
W. M. Thurlbeck
Peter A. Ward
Noel L. Warner
Dorothea Zucker-Franklin

*Editorial Assistant*: Sara Lyon

*EIGHTY YEARS OF PUBLICATION*

**THE AMERICAN ASSOCIATION of PATHOLOGISTS**

COPYRIGHT © 1981
BY THE AMERICAN ASSOCIATION OF PATHOLOGISTS

The American Journal of PATHOLOGY

CONTENTS FOR VOLUME 104, 1981

**July 1981**

1 *Dirofilaria immitis:* 5. Immunopathology of Filarial Nephropathy in Dogs
*Carlos R. Abramowsky, Kendall G. Powers, Masamichi Aikawa, and Gary Swinehart*

13 Platelet Adhesion and Myointimal Proliferation in Canine Pulmonary Arteries
*Robert G. Schaub, Clarence A. Rawlings, and James C. Keith, Jr.*

23 The Correlation of Histologic Changes in the Human Breast With the Menstrual Cycle
*Patrick M. Vogel, Nicholas G. Georgiade, Bernard F. Fetter, F. Stephen Vogel, and Kenneth S. McCarty, Jr.*

35 Short-Term Effects of Vitamin $D_3$ and 1,25-Dihydroxyvitamin $D_3$ on Osteomalacia in Uremic Rats Fed a Low-Calcium–Low-Phosphorus Diet
*Steven E. Weisbrode*

41 Histomorphometric Evaluation of the Effects of Intermittent 1,25-Dihydroxycholecalciferol Administration on Cortical Bone Remodeling in Adult Dogs
*Wanda B. High, Charles C. Capen, and Hugh E. Black*

50 IgA Glomerular Deposits in Experimental Cirrhosis
*A. A. Gormly, P. S. Smith, A. E. Seymour, A. R. Clarkson, and A. J. Woodroffe*

55 Neutrophil-Aggregating Activity of Monohydroxyeicosatetraenoic Acids
*J. T. O'Flaherty, M. J. Thomas, C. J. Lees, and C. E. McCall*

63 Neuron-Specific Enolase in the Merkel Cells of Mammalian Skin: The Use of Specific Antibody as a Simple and Reliable Histologic Marker
*Jiang Gu, Julia M. Polak, Felix J. Tapia, Paul J. Marangos, and Anthony G. E. Pearse*

69 The Chemotactic Response of Tumor Cells: A Model for Cancer Metastasis
*Wai Ching Lam, James Delikatny, F. William Orr, John Wass, James Varani, and Peter A. Ward*

77 Immunocytochemical Studies of Neurofibrillary Tangles
*Shu-Hui C. Yen, Felicia Gaskin, and Robert D. Terry*

90 Immune Stimulation, Inflammation, and Changes in Hematopoiesis: Host Responses of the Murine Spleen to Infection With Cytomegalovirus
*Helen L. Lucia and John Booss*

98 Irreversible Neutrophil Aggregation: A Mechanism of Decreased Newborn Neutrophil Chemotactic Response
*Alan D. Mease, Doris P. Burgess, and Paul J. Thomas*

103 **Animal Model of Human Disease:** A Model for the Study of Stroke Using the Rat
*Robert G. Robinson*

**August 1981**


107 Presentation of the Gold Headed Cane Award to Kenneth M. Brinkhous
*Reginald G. Mason*

114 Inflammation and Tumor Growth: I. Tumor Growth in Mice with Depressed Capacity to Mount Inflammatory Responses: Possible Role of Macrophages
*Margaret Nelson, D. S. Nelson, and K. E. Hopper*

125 Inflammation and Tumor Growth: II. Tumor Growth at Sites of Inflammation Induced by Mitogens in Mice
*Margaret Nelson and D. S. Nelson*

132 Effects of Heparin on Platelet Aggregation and Release and Thromboxane $A_2$ Production
*S. F. Mohammad, W. H. Anderson, J. B. Smith, H. Y. K. Chuang, and R. G. Mason*

142 Mast Cell Degranulation in Beige Mice with the Chédiak-Higashi Defect
*Kam C. Poon, Paul I. Liu, and Samuel S. Spicer*

150 Quantification, Dynamics, and Mechanisms of Pulmonary Inflammatory Response Around Schistosomula of *Schistosoma Mansoni*
*Remigio M. Olveda, G. Richard Olds, and Adel A. F. Mahmoud*

159 Hepatic Morphology in Cardiac Dysfunction: A Clinicopathologic Study of 1000 Subjects at Autopsy
*Joseph M. Arcidi, Jr., G. William Moore, and Grover M. Hutchins*

167 Freeze-Fracture Studies of Muscle Caveolae in Human Muscular Dystrophy
*Eduardo Bonilla, Kenneth Fischbeck, and Donald L. Schotland*

174 APUD Cells in Teratomas
*Fred T. Bosman, and Jan-Willem K. Louwerens*

181 The Growth of Primary Glomerular Cells as a Confluent Monolayer in a Chemically Defined Serum-Free Medium: Specific Requirements for Prostaglandins and Extracellular Matrix Molecules
*Terry D. Oberley, Joanne E. Murphy-Ullrich, Bruce W. Steinert, and J. Vic Muth*

189 **Animal Model of Human Disease:** Alimentary Toxic Aleukia (Septic Angina, Endemic Panmyelotoxicosis, Alimentary Hemorrhagic Aleukia): T-2 Toxin-Induced Intoxication of Cats
*I. I. Lutsky and N. Mor*


**September 1981**


195 Presentation of the Warner-Lambert Parke-Davis Award to Dr. Michael W. Lieberman—1981
*Frederick F. Becker*

196 Biochemical Mechanisms of Lipid-A-Mediated Enhancement of Platelet Secretory Responses to Aggregated Immunoglobulins
*R. R. Landes and D. C. Morrison*

206 Immunochemical Identification of Intermediate-Sized Filaments in Human Neoplastic Cells: A Diagnostic Aid for the Surgical Pathologist
*Giulio Gabbiani, Yusuf Kapanci, Philippe Barazzone, and Werner W. Franke*

217 Synthesis of Pro-Collagen Type II by a Xenotransplanted Human Chondroblastic Osteosarcoma
*William L. Lanzer, Lance A. Liotta, Carole Yee, Henry A. Azar, and Jose Costa*

227 Long-Term Isografts of Cultured Fetal Mouse Pancreatic Islets: The Oncogenic Effects of Streptozotocin and the Prevention of Diabetic Renal Complications
*T. E. Mandel, L. Hoffman, and W. M. Carter*

237 Pathogenesis of Trimethyltin Neuronal Toxicity: Ultrastructural and Cytochemical Observations
*Thomas W. Bouldin, Nelson D. Goines, C. Robert Bagnell, and Martin R. Krigman*

250 The Ultrastructure of Spontaneous Coronary Arterial Lesions in Steelhead Trout (*Salmo gairdneri*)
*Edwin W. House and Earl P. Benditt*

258 The Mononuclear Phagocytes of the Rat Adrenal
*Stephen V. Surleff and John M. Papadimitriou*

272 Immunopathology of Natural and Experimental Lymphomas Induced by Wild Mouse Leukemia Virus
*Martin L. Bryant, Jonathan L. Scott, Bijay K. Pal, John D. Estes, and Murray B. Gardner*

283 American Association of Pathologists, Inc.: Annual Business Meeting

285 **Animal Model of Human Disease:** Hereditary Multiple Exostoses
*James L. Shupe, N. C. Leone, Eldon J. Gardner, and A. E. Olson*

# *Index of Subjects*

Volume 105, 1981


**Alveolar cells**
glycogen in, in pulmonary edema, 255
**Amyloid**
in renal interstitial cell nodules in hypertension, 288
**Anaphylaxis**
from platelet-activating factor, 64
**Angiotensin-converting enzyme**
antibodies to, lung injury from, 54
**Animal models of human disease**
chimpanzee carriers of hepatitis B, 328
diabetes mellitus in dogs, 194
Maroteaux-Lamy syndrome, 191
pancreatic carcinoma induced by azaserine, 94
paraproteinemia, idiopathic, 91
pulmonary fibrosis, diffuse interstitial, 333
**Aorta**
glycosaminoglycans in, in rat, 232
**Atherosclerosis**
and virus-induced lipid accumulation in arterial cells, 176
**Azaserine**
and pancreatic carcinoma in rats, 94

**Bone**
remodeling affected by hormones, 279
**Bronchiolitis**
from ozone exposure, 121

**Calcium**
and hepatocyte death from carbon tetrachloride, 138
and neutrophil degranulation responses to AAGPC, 107
**Carbon tetrachloride**
hepatocyte death from, calcium role in, 138
**Carcinogenesis**
initiation and promotion in, 3
**Chédiak-Higashi syndrome**
and giant dense bodies in fibroblasts, 270
**Chemotaxis**
eosinophil and neutrophil, 149
**Complement**
role in pulmonary fibrosis, 76

**Deoxynucleotidyl transferase**
terminal, immunoperoxidase detection of, 241
**Desmosomes**
association with mitochondria in liver, 207
**Diabetes mellitus**
animal model of, 194
**Dihydroxycholecalciferol**
and trabecular bone remodeling, 279

**Enzymes**
angiotensin-converting, antibodies to, lung injury from, 54
localization of ANAE in $T_M$ cells, 40
release in eosinophil and neutrophil chemotaxis, 149
**Eosinophils**
chemotaxis of, and enzyme release, 149

**Epithelial cells**
glandular, secretory component in, 47

**Fibroblasts**
giant dense bodies in, in Chédiak-Higashi syndrome, 270
**Fibrosis, pulmonary**
diffuse interstitial, animal model of, 333
neutrophils and complement in, 76

**Gammopathy**
benign monoclonal, animal model of, 91
**Glioma**
anaplastic human, grown in athymic mice, 316
**Glycogen**
in alveolar cells in pulmonary edema, 255
**Glycosaminoglycans**
in aorta of rat, 232

**Hageman factor**
and vascular permeability in guinea pigs, 164
**Hepatitis**
chimpanzee carriers of hepatitis B, 328
tuberculin hypersensitivity, 82
**Herpesvirus**
and lipid accumulation in arterial cells, 176
**Hormones**
and trabecular bone remodeling, 279
**Hypertension**
and amyloid-containing renal interstitial cell nodules, 288
and effects of parathyroidectomy, 186

**Immunology**
and lung injury model, 54
and phenotyping of lymphomas, 97
tuberculin hypersensitivity hepatitis, 82
**Immunoperoxidase**
for terminal transferase detection, 241
**Iron**
placental, localization of, 10

**Kidney**
amyloid-containing interstitial cell nodules in hypertension, 288
glomerular permeability affecting immune complexes deposited in vascular walls, 114

**Leukemia**
prolymphocytic, $BCL_1$ murine model of morphology and ultrastructure of, 306
splenectomy affecting, 295
**Liver**
chimpanzee carriers of hepatitis B, 328
hepatocyte death from carbon tetrachloride, calcium role in, 138
mitochondrial-desmosomal association in, 207
tuberculin hypersensitivity hepatitis, 82
**Lung**

animal model of diffuse interstitial fibrosis, 333
edema of, and glycogen in alveolar cells, 255
fibrosis of, neutrophils and complement in, 76
injury from antibodies to angiotensin-converting enzyme, 54
plexogenic vascular lesions of, 70
**Lymphocytes**
localization of ANAE in $T_M$ cells, 40
**Lymphomas**
phenotypes of, 97

**Maroteaux-Lamy syndrome**
animal model of, 191
**Mitochondria**
association with desmosomes in liver, 207
**Mucopolysaccharidosis VI**
animal model of, 191
**Muscle**
dystrophic surface membrane components in chickens, 223

**α-Naphthyl acid esterase**
localization in $T_M$ lymphocytes, 40
**Neoplasia**
anaplastic human gliomas grown in athymic mice, 316
histiocytic sarcoma in rat colony, 21
initiation and promotion in carcinogenesis, 3
pancreatic carcinoma induced by azaserine, 94
phenotypes of lymphomas, 97
and secretory component in malignant glandular epithelial cells, 47
**Neutrophils**
chemotaxis of, and enzyme release, 149
degranulation responses to AAGPC, 107
comparison with other agents, 264
role in pulmonary fibrosis, 76

**Ozone**
bronchiolitis from, 121

**Pancreas**
carcinoma induced by azaserine, 94
**Pancreatitis**
and immunoreactive cationic trypsin in biologic fluids, 31
**Paraproteinemia**
idiopathic, animal model of, 91
**Parathyroid hormone**
and trabecular bone remodeling, 279
**Parathyroidectomy**
affecting vascular lesions, 186
**Placental iron**
localization of, 10
**Platelets**
anaphylactic actions of activating factor, 64
**Pregnancy**
localization of placental iron in, 10

**Rous-Whipple Award,** 199

**Sarcoma**
histiocytic, in rat colony, 21
**Secretory component**
in glandular epithelial cells, 47
**Sendai virus**
infection in mice, 156
**Splenectomy**
affecting $BCL_1$ murine model of prolymphocytic leukemia, 295

**Thyroxine**
and trabecular bone remodeling, 279
**Trypsin**
cationic, in biologic fluids in pancreatitis, 31
**Tuberculin**
hypersensitivity hepatitis, 82

**Vasculature**
endothelial-vascular smooth muscle cell interactions, 200
glomerular permeability affecting immune complexes deposited in capillary walls, 114
glycosaminoglycans in rat aorta, 232
herpesvirus affecting lipid accumulation in arterial cells, 176
medial changes in arterial spasm, 212
parathyroidectomy affecting lesions in, 185
permeability enhancement activity of guinea pig Hageman factor, 164
plexogenic pulmonary arteriopathy, 70
**Viruses**
chimpanzee carriers of hepatitis B, 328
herpesvirus affecting lipid accumulation in arterial cells, 176
Sendai virus infection in mice, 156

# *Index of Authors*

## Volume 105, 1981

**Allen R:** *See* Malouf NN, Samsa D, Allen R, Meissner G, 223
**Atwal OS, Bray TM:** Glycogen accumulation in alveolar type II cells in 3-methylindole-induced pulmonary edema in goats (December), 255

**Barton JC:** *See* Parmley RT, Barton JC, Conrad ME, 10
**Becker FF:** Presentation of the Rous-Whipple Award to Morris J. Karnovsky (December), 199
**Becker FF:** Presidential Address: Recent concepts of initiation and promotion in carcinogenesis (October), 3
**Bigner DD:** *See* Jones TR, Bigner SH, Schold SC Jr, Eng LF, Bigner DD, 316
**Bigner SH:** *See* Jones TR, Bigner SH, Schold SC Jr, Eng LF, Bigner DD, 316
**Black HE:** *See* High WB, Capen CC, Black HE, 279
**Bloor CM:** *See* Stimler MP, Bloor CM, Hugli TE, Wykle RL, McCall CE, O'Flaherty JT, 64
**Borowitz MJ, Croker BP, Metzgar RS:** Comparison of histologic and immunologic heterogeneity of non-Hodgkin's lymphoma (November), 97
**Bray TM:** *See* Atwal OS, Bray TM, 255
**Brinkhous KM:** *See* Dquire RA, Brinkhous KM, Peiper SC, Firminger HI, Mann RB, Strandberg JD, 21
**Brodrick JW:** *See* Geokas MC, Largman C, Durie PR, Brodrick JW, Ray SB, O'Rourke M, Vollmer J, 31

**Brody AR:** *See* Haschek WM, Brody AR, Klein-Szanto AJP, Witschi H, 333
**Brownstein DG, Smith AL, Johnson EA:** Sendai virus infection in genetically resistant and susceptible mice (November), 156
**Butler VP:** *See* Caldwell PRB, Wigger HJ, Fernandez LT, D'Alisa RM, Tse-Eng D, Buter VP, Gigli I, 54

**Cadoni A:** *See* Zicca A, Leprini A, Cadoni A, Franzi, AT, Ferrarini M, Grossi CE, 40
**Caldwell PRB, Wigger HJ, Fernandez LT, D'Alisa RM, Tse-Eng D, Butler VP, Gigli I:** Lung injury induced by antibody fragments to angiotensin-converting enzyme (October), 54
**Capen CC:** *See* High WB, Capen CC, Black HE, 279
**Casini AG, Farber JL:** Dependence of the carbon-tetrachloride-induced death of cultured hepatocytes on the extracellular calcium concentration (November), 138
**Cavallo T:** *See* Melnick GF, Ladoulis CT, Cavallo T, 114
**Cochrane CG:** *See* Yamamoto T, Cochrane CG, 164
**Coltoff-Schiller B, Goldfischer S:** Glycosaminoglycans in the rat aorta ultrastructural localization: With toluidine blue O and osmium-ferrocyanide procedures (December), 232
**Conrad ME:** *See* Parmley RT, Barton JC, Conrad ME, 10
**Conran RM:** *See* Nickerson PA, Conran RM, 185
**Cottier H:** *See* Zimmermann, A, Luscieti P, Flury B, Hess MW, Cottier H, 288
**Croker BP:** *See* Borowitz MJ, Croker BP, Metzgar RS, 97

**D'Alisa RM:** *See* Caldwell PRB, Wigger HJ, Fernandez LT, D'Alisa RM, Tse-Eng D, Butler VP, Gigli I, 54
**Desnick RJ:** *See* Haskins ME, Jezyk PF, Desnick RJ, Patterson DF, 191
**Dungworth DL:** *See* Eustis SL, Schwartz LW, Kosch PC, Dungworth DL, 121
**Durie PR:** *See* Geokas MC, Largman C, Durie PR, Brodrick JW, Ray SB, O'Rourke M, Vollmer J, 31

**Eng LF:** *See* Jones TR, Bigner SH, Schold SC Jr, Eng LF, Bigner DD, 316
**Eustis SL, Schwartz LW, Kosch PC, Dungworth DL:** Chronic bronchiolitis in nonhuman primates after prolonged ozone exposure (November), 121

**Fabricant CG, Hajjar DP, Minick CR, Fabricant J:** Herpesvirus infection enhances cholesterol and cholesteryl ester accumulation in cultured arterial smooth muscle cells (November), 176
**Fabricant J:** *See* Fabricant CG, Hajjar DP, Minick CR, Fabricant J, 176
**Falini B:** *See* Halverson CA, Falini B, Taylor DR, Parker JW, 241
**Fantone JC:** *See* Ogawa H, Kunkel SL, Fantone JC, Ward PA, 149
**Farber JL:** *See* Casini AF, Farber JL, 138
**Ferluga J:** Tuberculin hypersensitivity hepatitis in mice infected with *Mycobacterium bovis* (BCG) (October), 82
**Fernandez LT:** *See* Caldwell PRB, Wigger HJ, Fernandez LT, D'Alisa RM, Tse-Eng D, Butler VP, Gigli I, 54
**Ferrarini M:** *See* Zicca A, Leprini A, Cadoni A, Franzi AT, Ferrarini M, Grossi CE, 40
**Firminger HI:** *See* Squire RA, Brinkhous KM, Peiper SC, Firminger HI, Mann RB, Strandberg JD, 21
**Flury B:** *See* Zimmermann A, Luscieti P, Flury B, Hess ME, Cottier H, 288
**Franzi AT:** *See* Zicca A, Leprini A, Cadoni A, Franzi AT, Ferrarini M, Grossi CE, 40

**Geokas MC, Largman C, Durie PR, Brodrick JW, Ray SB, O'Rourke M, Vollmer J:** Immunoreactive forms of cationic trypsin in plasma and ascitic fluid of dogs in experimental pancreatitis (October), 31
**Gerber MA:** *See* Thung SN, Gerber MA, Purcell RH, London WT, Mihalik KB, Popper H, 328
**Gigli I:** *See* Caldwell PRB, Wigger HJ, Fernandez LT, D'Alisa RM, Tse-Eng D, Butler VP, Gigli I, 54
**Goldfischer S:** *See* Coltoff-Schiller B, Goldfischer S, 232
**Grossi CE:** *See* Zicca A, Leprini A, Cadoni A, Franzi AT, Ferrarini M, Grossi CE, 40

**Hajjar DP:** *See* Fabricant CG, Hajjar DP, Minick CR, Fabricant J, 176
**Halverson CA, Falini B, Taylor CR, Parker JW:** Detection of terminal transferase in paraffin sections with the immunoperoxidase technique (December), 241
**Harris JP, South MA:** Secretory component: A glandular epithelial cell marker (October), 47
**Haschek WM, Brody AR, Klein-Szanto AJP, Witschi H:** ANIMAL MODEL OF HUMAN DISEASE: Diffuse interstitial pulmonary fibrosis (December), 333
**Haskins ME, Jezyk PF, Desnick RJ, Patterson DF:** ANIMAL MODEL OF HUMAN DISEASE: Mucopolysaccharidosis VI Maroteaux-Lamy syndrome. Arylsulfatase B-deficient mucopolysaccharidosis in the Siamese cat (November), 191
**Hess MW:** *See* Zimmermann A, Luscieti P, Flury B, Hess MW, Cottier H, 288
**High WB, Capen CC, Black HE:** The effects of 1,25-dihydroxycholecalciferol, parathyroid hormone, and thyroxine on trabecular bone remodeling in adult dogs. A histomorphometric study (December), 279
**Holbert JM Jr:** *See* Muirhead MJ, Holbert JM Jr, Uhr JW, Vitetta ES, 306
**Hugli TE:** *See* Stimler MP, Bloor CM, Hugli TE, Wykle RL, McCall CE, O'Flaherty JT, 64

**Isakson PC:** *See* Muirhead MJ, Isakson PC, Krolick KA, Uhr JW, Vitetta ES, 295

**Jezyk PF:** *See* Haskins ME, Jezyk PF, Desnick RJ, Patterson DF, 191
**Johnson EA:** *See* Brownstein DG, Smith AL, Johnson EA, 156
**Jones TR, Bigner SH, Schold SC Jr, Eng LF, Bigner DD:** Anaplastic human gliomas grown in athymic mice: Morphology and glial fibrillary acidic protein expression (December), 316
**Joris I, Majno G:** Medial changes in arterial spasm induced by L-norepinephrine (December), 212

**Karnovsky, MJ:** Endothelial-vascular smooth muscle cell interactions: Rous-Whipple Award lecture (December), 200
**Klein-Szanto AJP:** *See* Haschek WM, Brody AR, Klein-Szanto AJP, Witschi H, 333
**Kosch PC:** *See* Eustis SL, Schwartz LW, Kosch PC, Dungworth DL, 121
**Kramer JW:** ANIMAL MODEL OF HUMAN DISEASE: Inherited early-onset insulin-requiring diabetes mellitus in keeshond dogs (November), 194
**Krolick KA:** *See* Muirhead MJ, Isakson PC, Krolick KA, Uhr JW, Vitetta ES, 295
**Kunkel SL:** *See* Ogawa H, Kunkel SL, Fantone JC, Ward PA, 149

**Ladoulis CT:** *See* Melnick GF, Ladoulis CT, Cavallo T, 114
**Largman C:** *See* Geokas MC, Largman C, Durie PR, Brodrick JW, Ray SB, O'Rourke M, Vollmer J, 31
**Lees CJ:** *See* O'Flaherty JT, Swendsen CL, Lees CJ, McCall CE, 107
**Lees CJ:** *See* O'Flaherty JT, Wykle RL, Lees CJ, Shewmake T, McCall CE, Thomas MJ, 264

**Leprini A:** *See* Zicca A, Leprini A, Cadoni A, Franzi AT, Ferrarini M, Grossi CE, 40
**London WT:** *See* Thung SN, Gerber MA, Purcell RH, London WT, Mihalik KB, Popper H, 328
**Longnecker DS:** ANIMAL MODEL OF HUMAN DISEASE: Carcinoma of the pancreas in azaserine-treated rats (October), 94
**Luscieti P:** *See* Zimmermann A, Luscieti P, Flury B, Hess MW, Cottier H, 288

**Majno G:** *See* Joris I, Majno G, 212
**Malouf NN, Samsa D, Allen R, Meissner G:** Biochemical and cytochemical comparison of surface membranes from normal and dystrophic chickens (December), 223
**Mann RB:** *See* Squire RA, Brinkhouse KM, Peiper SC, Firminger HI, Mann RB, Strandberg JD, 21
**McCall CE:** *See* O'Flaherty JT, Swendsen CL, Lees CH, McCall CE, 107
**McCall CE:** *See* O'Flaherty JT, Wykle RL, Lees CJ, Shewmake T, McCall CE, Thomas MJ, 264
**McCall CE:** *See* Stimler MP, Blood CM, Hugli TE, Wykle RL, McCall CE, O'Flaherty JT, 64
**McCormick JR:** *See* Thrall RS, Phan SH, McCormick JR, Ward PA, 76
**Meissner G:** *See* Maloug NN, Samsa D, Allen R, Meissner G, 223
**Melnick GF, Ladoulis CT, Cavallo T:** Decrease anionic groups and increased permeability precedes deposition of immune complexes in the glomerular capillary wall (November), 114
**Metzgar RS:** *See* Borowitz MJ, Croker BP, Metzgar RS, 97
**Mihalik KB:** *See* Thung SN, Gerber MA, Purcell RH, London WT, Mihalik KB, Popper H, 328
**Minick CR:** *See* Fabricant CG, Hajjar DP, Minick CR, Fabricant J, 176
**Muirhead MJ, Holbert JM Jr, Uhr JW, Vitetta ES:** $BCL_1$, a murine model of prolymphocytic leukemia: II. Morphology and ultrastructure (December), 306
**Muirhead MJ, Isakson PC, Krolick KA, Uhr JW, Vitetta ES:** $BCL_1$, a murine model of prolymphocytic leukemia: I. Effect of splenectomy on growth kinetics and organ distribution (December), 295

**Nickerson PA, Conran RM:** Parathyroidectomy ameliorates vascular lesions induced by deoxycorticosterone in the rat (November), 185

**O'Flaherty JT, Swendsen CL, Lees CJ, McCall CE:** Role of extracellular calcium in neutrophil degranulation responses to 1-*O*-alkyl-2-*O*-acetyl-*sn*-glycero-3-phosphocholine (November), 107
**O'Flaherty JT, Wykle RL, Lees CJ, Shewmake T, McCall CE, Thomas MJ:** Neutrophil-degranulating action of 5,12-dihydroxy-6,8,10,14-eicosatetrenoic acid and 1-*O*-alkyl-2-*O*-acetyl-*sn*-glycero-3-phosphocholine: Comparison with other degranulating agents (December), 264
**O'Flaherty JT:** *See* Stimler MY, Bloor CM, Hugli TE, Wykle RL, McCall CE, O'Flaherty JT, 64
**Ogawa H, Kunkel SL, Fantone JC, Ward PA:** Comparative study of eosinophil and neutrophil chemotaxis and enzyme release (November), 149
**O'Rourke M:** *See* Geokas MC, Largman C, Durie PR, Brodrick JW, Ray SB, O'Rourke M, Vollmer J, 31

**Parker JW:** *See* Halverson CA, Falini B, Taylor CR, Parker JW, 241
**Parmley RT, Barton JC, Conrad ME:** Ultrastructural, cytochemical and radioautographic localization of placental iron (October), 10
**Patterson DF:** *See* Haskins ME, Jezyk PF, Desnick RJ, Patterson DF, 191
**Peiper SC:** *See* Squire RA, Brinkhous KM, Peiper SC, Firminger HI, Mann RB, Strandberg JD, 21
**Phan SH:** *See* Thrall RS, Phan SH, McCormick JR, Ward PA, 76
**Popper H:** *See* Thung SN, Gerber MA, Purcell RH, London WT, Mihalik KB, Popper H, 328
**Purcell RH:** *See* Thung SN, Gerber MA, Purcell RH, London WT, Mihalik KB, Popper H, 328

**Radl J:** ANIMAL MODEL OF HUMAN DISEASE: Benign monoclonal gammopathy (idiopathic paraproteinemia) (October), 91
**Rassat J, Robenek H, Themann H:** Structural relationship between desmosomes and mitochondria in human livers exhibiting a wide range of diseases (December), 207
**Ray SB:** *See* Geokas MC, Largman C, Durie PR, Brodrick JW, Ray SB, O'Rourke M, Vollmer J, 31
**Robenek H:** *See* Rassat J, Robenek H, Themann H, 207

**Samsa D:** *See* Malouf NN, Samsa D, Allen R, Meissner G, 223
**Schold SC Jr:** *See* Jones TR, Bigner SH, Schold SC Jr, Eng LF, Bigner DD, 316
**Schwartz LW:** *See* Eustis SL, Schwartz LW, Kosch PC, Dungworth DL, 121
**Shewmake T:** *See* O'Flaherty JT, Wykle RL, Lees CJ, Shewmake T, McCall CE, Thomas MJ, 264
**Smith AL:** *See* Brownstein DG, Smith AL, Johnson EA, 156
**South MA:** *See* Harris JP, South MA, 47
**Spicer SS:** *See* Vincent RA, Spicer SS, 270
**Squire RA, Brinkhous KM, Peiper SC, Firminger HI, Mann RB, Stranberg JD:** Histiocytic sarcoma with a granuloma-like component occurring in a large colony of Sprague-Dawley rats (October), 21
**Stimler MP, Bloor CM, Hugli TE, Wykle RL, McCall CE, O'Flaherty JT:** Anaphylactic actions of platelet-activating factor (October), 64
**Strandberg JD:** *See* Squire RA, Brinkhous KM, Peiper SC, Firminger HI, Mann RB, Strandberg JD, 21
**Swendsen CL:** *See* O'Flaherty JT, Swendsen CL, Lees CJ, McCall CE, 107

**Taylor CR:** *See* Halverson CA, Falini B, Taylor DR, Parker JW, 241
**Themann H:** *See* Rassat J, Robenek H, Themann H, 207
**Thomas MJ:** *See* O'Flaherty JT, Wykle RL, Lees CJ, Shewmake T, McCall CE, Thomas MJ, 264
**Thrall RS, Phan SH, McCormick JR, Ward PA:** The development of bleomycin-induced pulmonary fibrosis in neutrophil-depleted and complement-depleted rats (October), 76
**Thung SN, Gerber MA, Purcell RH, London WT, Mihalik KB, Popper H:** ANIMAL MODEL OF HUMAN DISEASE: Chimpanzee carriers of hepatitis B virus (December), 328
**Tse-Eng D:** *See* Caldwell PRB, Wigger HJ, Fernandez LT, D'Alisa RM, Tse-Eng D, Butler VP, Gigli I, 54

**Uhr JW:** *See* Muirhead MJ, Holbert JM Jr, Uhr JW, Vitetta ES, 306
**Uhr JW:** *See* Muirhead MJ, Isakson PC, Krolick KA, Uhr JW, Vitetta ES, 295

**Vincent RA, Spicer SS:** Giant dense bodies in fibroblasts cultured from beige mice with the Chédiak-Higashi syndrome (December), 270
**Vitetta ES:** *See* Muirhead MJ, Holbert JM Jr, Uhr JW, Vitetta ES, 306
**Vitetta ES:** *See* Muirhead MJ, Isakson PC, Krolick KA, Uhr JW, Vitetta ES, 295
**Vollmer J:** *See* Geokas MC, Largman C, Durie PR, Brodrick JW, Ray SB, O'Rourke M, Vollmer J, 31

**Wagenvoort CA:** *See* Yamaki S, Wagenvoort CA, 70
**Ward PA:** *See* Ogawa H, Kunkel SL, Fantone JA, Ward PA, 149
**Ward PA:** *See* Thrall RS, Phan SH, McCormick JR, Ward PA, 76
**Wigger HJ:** *See* Caldwell PRB, Wigger HJ, Fernandez LT, D'Alisa RM, Tse-Eng D, Butler VP, Gigli I, 54
**Witschi H:** *See* Haschek WM, Brody AR, Klein-Szanto AJP, Witschi H, 333
**Wykle RL:** *See* O'Flaherty JT, Wykle RL, Lees CJ, Shewmake T, McCall CE, Thomas MJ, 264
**Wykle RL:** *See* Stimler MP, Bloor CM, Hugli TE, Wykle RL, McCall CE, O'Flaherty JT, 64

**Yamaki S, Wagenvoort CA:** Plexogenic pulmonary arteriopathy: Significance of medial thickness with respect to advanced pulmonary vascular lesions (October), 70
**Yamamoto T, Cochrane CG:** Guinea pig Hageman factor as a vascular permeability enhancement factor (November), 164

**Zicca A, Leprini A, Cadoni A, Franzi AT, Ferrarini M, Grossi CE:** Ultrastructural localization of alpha-naphthyl acid esterase in human $T_M$ lymphocytes (October), 40
**Zimmermann A, Luscieti P, Flury B, Hess MW, Cottier H:** Amyloid-containing renal interstitial cell nodules (RICNs) associated with chronic arterial hypertension in older age groups (December), 288

# The American Journal of PATHOLOGY

OFFICIAL JOURNAL OF
THE AMERICAN ASSOCIATION OF PATHOLOGISTS

Volume 105, 1981

(October Through December)

BOARD OF EDITORS
Donald B. Hackel, Editor-in-Chief
F. Stephen Vogel, Associate Editor

Dolph O. Adams
Raymond D. Adams
Carl G. Becker
Frederick F. Becker
Baruj Benacerraf
Kurt Benirschke
Colin Bloor
Joel G. Brunson
L. Maximilian Buja
John E. Craighead
Frank J. Dixon, Jr.
Thomas S. Edgington
John T. Ellis
Emmanuel Farber
Frank W. Fitch
Patrick J. Fitzgerald
David G. Freiman
Godfrey S. Getz
Thomas J. Gill III
Gabriel Godman
John B. Hazard
T. Carl Jones
Michael Kashgarian
Werner H. Kirsten
Paul Kotin
Marvin S. Kuschner
Michael W. Lieberman
Guido Majno
A. Rees Midgley, Jr.
Donald G. McKay
Councilman Morgan
Richard L. Naeye
Peter Nowell
Carl W. Pierce
Henry C. Pitot
Alan S. Rabson
Norman B. Ratliff, Jr.
Edward P. Richardson, Jr.
Goetz W. Richter
Russell Ross
David T. Rowlands, Jr.
Herschel Sidransky
Edward A. Smuckler
Leon Sokoloff
Benjamin H. Spargo
Lewis Thomas
W. M. Thurlbeck
Peter A. Ward
Noel L. Warner
Dorothea Zucker-Franklin

*Editorial Assistant*: Sara Lyon

*EIGHTY YEARS OF PUBLICATION*

**THE AMERICAN ASSOCIATION of PATHOLOGISTS**

COPYRIGHT © 1981
BY THE AMERICAN ASSOCIATION OF PATHOLOGISTS

The American Journal of PATHOLOGY

CONTENTS FOR VOLUME 105, 1981

**October 1981**


3 PRESIDENTIAL ADDRESS: Recent Concepts of Initiation and Promotion in Carcinogenesis
*Frederick F. Becker*

10 Ultrastructural, Cytochemical, and Radioautographic Localization of Placental Iron
*Richard T. Parmley, James C. Barton, and Marcel E. Conrad*

21 Histiocytic Sarcoma with a Granuloma-Like Component Occurring in a Large Colony of Sprague-Dawley Rats
*Robert A. Squire, K. M. Brinkhous, Stephen A. Peiper, Harlan I. Firminger, Risa B. Mann, and John D. Strandberg*

31 Immunoreactive Forms of Cationic Trypsin in Plasma and Ascitic Fluid of Dogs in Experimental Pancreatitis
*Michael C. Geokas, Corey Largman, Peter R. Durie, James W. Brodrick, Susan B. Ray, Marie O'Rourke, and Janice Vollmer*

40 Ultrastructural Localization of Alpha-Naphthyl Acid Esterase in Human $T_M$ Lymphocytes
*A. Zicca, A. Leprini, A. Cadoni, A. T. Franzi, M. Ferrarini, and C. E. Grossi*

47 Secretory Component: A Glandular Epithelial Cell Marker
*Jeffrey P. Harris and Mary Ann South*

54 Lung Injury Induced by Antibody Fragments to Angiotensin-Converting Enzyme
*Peter R. B. Caldwell, H. Joachim Wigger, Lourdes T. Fernandez, Rose M. D'Alisa, Doris Tse-Eng, Vincent P. Butler, and Irma Gigli*

64 Anaphylactic Actions of Platelet-Activating Factor
*Norma P. Stimler, Colin M. Bloor, Tony E. Hugli, Robert L. Wykle, Charles E. McCall, and Joseph T. O'Flaherty*

70 Plexogenic Pulmonary Arteriopathy: Significance of Medial Thickness with Respect to Advanced Pulmonary Vascular Lesions
*Shigeo Yamaki and C. A. Wagenvoort*

76 The Development of Bleomycin-Induced Pulmonary Fibrosis in Neutrophil-Depleted and Complement-Depleted Rats
*Roger S. Thrall, Sem H. Phan, James R. McCormick, and Peter A. Ward*

82 Tuberculin Hypersensitivity Hepatitis in Mice Infected with *Mycobacterium bovis* (BCG)
*Janez Fergula*

91 **Animal Model of Human Disease:** Benign Monoclonal Gammopathy (Idiopathic Paraproteinemia)
*Jiri Radl*

94 **Animal Model of Human Disease:** Carcinoma of the Pancreas in Azaserine-Treated Rats
*Daniel S. Longnecker*

**November 1981**


97 Comparison of Histologic and Immunologic Heterogeneity of Non-Hodgkin's Lymphomas
*Michael J. Borowitz, Byron P. Croker, and Richard S. Metzgar*

107 Role of Extracellular Calcium in Neutrophil Degranulation Responses to 1-*O*-alkyl-2-*O*-acetyl-*sn*-glycero-3-phosphocholine
*J. T. O'Flaherty, C. L. Swendsen, C. J. Lees, and C. E. McCall*

114 Decreased Anionic Groups and Increased Permeability Precedes Deposition of Immune Complexes in the Glomerular Capillary Wall
*Gayle F. Melnick, Charles T. Ladoulis, and Tito Cavallo*

121 Chronic Bronchiolitis in Nonhuman Primates After Prolonged Ozone Exposure
*S. L. Eustis, L. W. Schwartz, P. C. Kosch, and D. L. Dungworth*

138 Dependence of the Carbon-Tetrachloride–Induced Death of Cultured Hepatocytes on the Extracellular Calcium Concentration
*Alessandro F. Casini and John L. Farber*

149 Comparative Study of Eosinophil and Neutrophil Chemotaxis and Enzyme Release
*Hiroshi Ogawa, Steven L. Kunkel, Joseph C. Fantone, and Peter A. Ward*

156 Sendai Virus Infection in Genetically Resistant and Susceptible Mice
*David G. Brownstein, Abigail L. Smith, and Elizabeth A. Johnson*

164 Guinea Pig Hageman Factor as a Vascular Permeability Enhancement Factor
*Tetsuro Yamamoto and Charles G. Cochrane*

176 Herpesvirus Infection Enhances Cholesterol and Cholesteryl Ester Accumulation in Cultured Arterial Smooth Muscle Cells
*Catherine G. Fabricant, David P. Hajjar, C. Richard Minick, and Julius Fabricant*

185 Parathyroidectomy Ameliorates Vascular Lesions Induced by Deoxycorticosterone in the Rat
*Peter A. Nickerson and Richard M. Conran*

191 **Animal Model of Human Disease:**
Mucopolysaccharidosis VI Maroteaux-Lamy Syndrome, Arylsulfatase B-Deficient Mucopolysaccharidosis in the Siamese Cat
*M. E. Haskins, P. F. Jezyk, R. J. Desnick, and D. F. Patterson*

194 **Animal Model of Human Disease:**
Inherited Early-Onset, Insulin-Requiring Diabetes Mellitus in Keeshond Dogs
*John W. Kramer*


**December 1981**


197 Presentation of the Rous-Whipple Award to Morris J. Karnovsky—1981
*Frederick F. Becker*

200 Endothelial-Vascular Smooth Muscle Cell Interactions: Rous-Whipple Award Lecture
*Morris J. Karnovsky*

207 Structural Relationship Between Desmosomes and Mitochondria in Human Livers Exhibiting a Wide Range of Diseases
*Jurgen Rassat, Horst Robenek, and Hermann Themann*

212 Medial Changes in Arterial Spasm Induced by L-Norepinephrine
*Isabelle Joris and Guido Majno*

223 Biochemical and Cytochemical Comparison of Surface Membranes From Normal and Dystrophic Chickens
*Nadia N. Malouf, Donna Samsa, Robert Allen, and Gerhard Meissner*

232 Glycosaminoglycans in the Rat Aorta: Ultrastructural Localization With Toluidine Blue O and Osmium-Ferrocyanide Procedures
*Bernice Coltoff-Schiller and Sidney Goldfischer*

241 Detection of Terminal Transferase in Paraffin Sections With the Immunoperoxidase Technique
*Craig A. Halverson, Brunangelo Falini, Clive R. Taylor, and John W. Parker*

255 Glycogen Accumulation in Alveolar Type II Cells in 3-Methylindole-Induced Pulmonary Edema in Goats
*Onkar S. Atwal and Tammy M. Bray*

264 Neutrophil-Degranulating Action of 5,12-Dihydroxy-6,8,10,14-eicosatetraenoic Acid and 1-*O*-alkyl-2-*O*-acetyl-*sn* glycero-3-phosphocholine: Comparison With Other Degranulating Agents
*J. T. O'Flaherty, Robert L. Wykle, C. J. Lees, T. Shewmake, C. E. McCall, and M. J. Thomas*

270 Giant Dense Bodies in Fibroblasts Cultured From Beige Mice With the Chédiak-Higashi Syndrome
*R. A. Vincent, Jr. and S. S. Spicer*

279 The Effects of 1,25-Dihydroxycholecalciferol, Parathyroid Hormone, and Thyroxine on Trabecular Bone Remodeling in Adult Dogs: A Histomorphometric Study
*Wanda B. High, Charles C. Capen, and Hugh E. Black*

288 Amyloid-Containing Renal Interstitial Cell Nodules (RICNs) Associated With Chronic Arterial Hypertension in Older Age Groups
*Arthur Zimmermann, Peter Luscieti, Bernhard Flury, Max W. Hess, and Hans Cottier*

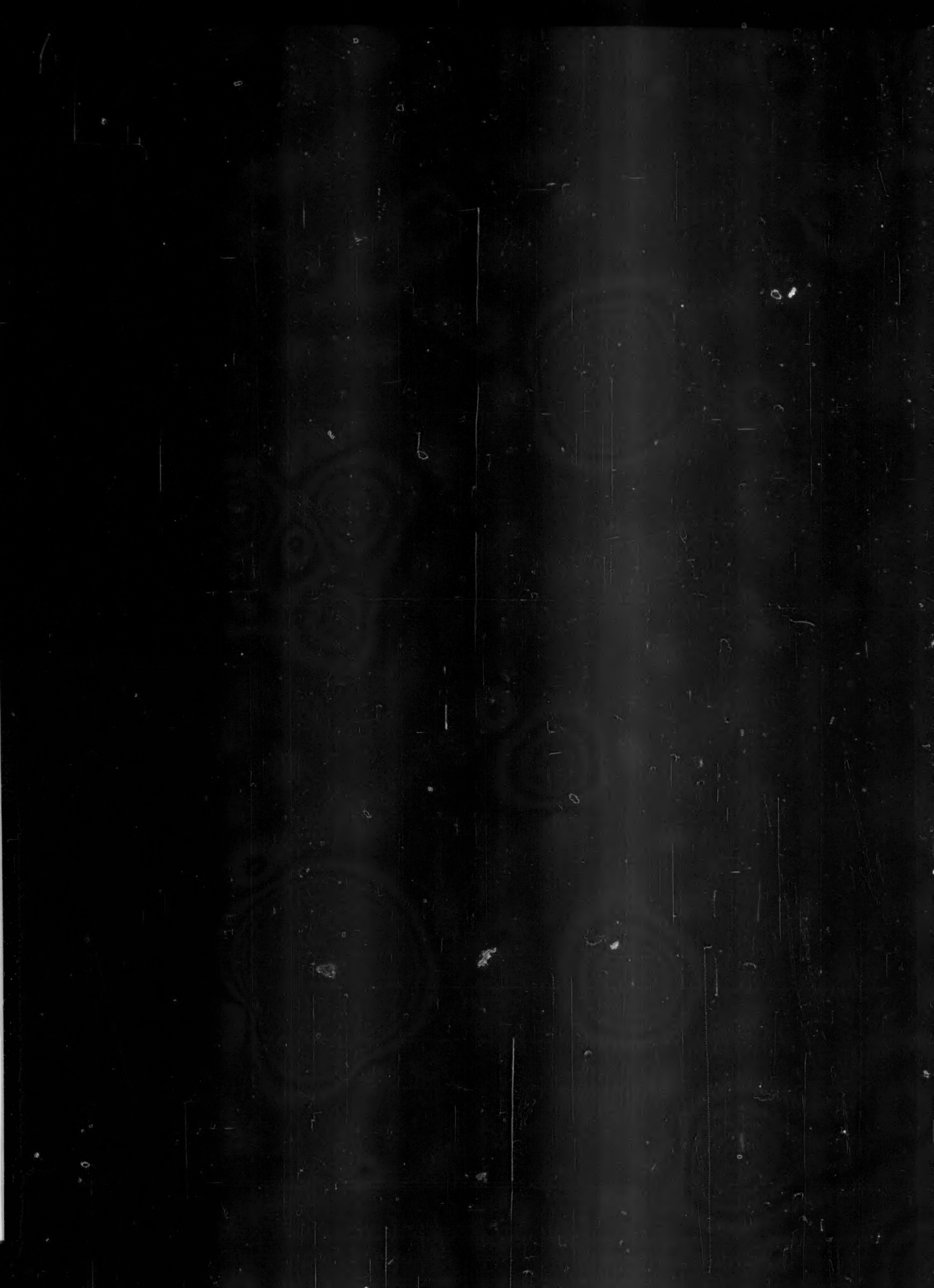
295 $BCL_1$, a Murine Model of Prolymphocytic Leukemia: I. Effect of Splenectomy on Growth Kinetics and Organ Distribution
*Michael J. Muirhead, Peter C. Isakson, Keith A. Krolick, Jonathan W. Uhr, and Ellen S. Vitetta*

306 $BCL_1$, a Murine Model of Prolymphocytic Leukemia: II. Morphology and Ultrastructure
*Michael J. Muirhead, James M. Holbert, Jr., Jonathan W. Uhr, and Ellen S. Vitetta*

316 Anaplastic Human Gliomas Grown in Athymic Mice: Morphology and Glial Fibrillary Acidic Protein Expression
*Trevor R. Jones, Sandra H. Bigner, S. Clifford Schold, Jr., Lawrence F. Eng, and Darell D. Bigner*

328 **Animal Model of Human Disease**: Chimpanzee Carriers of Hepatitis B Virus: Chimpanzee Hepatitis B Carriers
*Swan N. Thung, Michael A. Gerber, Robert H. Purcell, William T. London, Kathleen B. Mihalik, and Hans Popper*

333 **Animal Model of Human Diseases**: Diffuse Interstitial Pulmonary Fibrosis: Pulmonary Fibrosis in Mice Induced by Treatment With Butylated Hydroxytoluene and Oxygen
*Wanda M. Haschek, Arnold R. Brody, Andres J. P. Klein-Szanto, and Hanspeter Witschi*

336 Index of Subjects

337 Index of Authors